Scientific Excellence • Resource Protection & Conservation • Benefits for Canadians
Excellence scientifique • Protection et conservation des ressources • Bénéfices aux Canadiens

NOGAP B.2; Chemical Data from the Canadian Beaufort Sea Shelf, 1984 to 1988

M.J. Lawrence, M.A. Bergmann, G.E. Hopky,
D.B. Chiperzak and M.A. Keast

Central and Arctic Region
Department of Fisheries and Oceans
Winnipeg, Manitoba
R3T 2N6

1991

Canadian Data Report of
Fisheries and Aquatic Sciences
No. 857

Fisheries and Oceans Pêches et Océans

Canada

Canadian Data Report of Fisheries and Aquatic Sciences

Data reports provide a medium for filing and archiving data compilations where little or no analysis is included. Such compilations commonly will have been prepared in support of other journal publications or reports. The subject matter of data reports reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries and aquatic sciences.

Data reports are not intended for general distribution and the contents must not be referred to in other publications without prior written authorization from the issuing establishment. The correct citation appears above the abstract of each report. Data reports are abstracted in *Aquatic Sciences and Fisheries Abstracts* and indexed in the Department's annual index to scientific and technical publications.

Numbers 1–25 in this series were issued as Fisheries and Marine Service Data Records. Numbers 26–160 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Data Reports. The current series name was introduced with the publication of report number 161.

Data reports are produced regionally but are numbered nationally. Requests for individual reports will be filled by the issuing establishment listed on the front cover and title page. Out-of-stock reports will be supplied for a fee by commercial agents.

Rapport statistique canadien des sciences halieutiques et aquatiques

Les rapports statistiques servent à classer et à archiver les compilations de données pour lesquelles il y a peu ou point d'analyse. Ces compilations auront d'ordinaire été préparées à l'appui d'autres publications ou rapports. Les sujets des rapports statistiques reflètent la vaste gamme des intérêts et des politiques du ministère des Pêches et des Océans, c'est-à-dire les sciences halieutiques et aquatiques.

Les rapports statistiques ne sont pas destinés à une vaste distribution et leur contenu ne doit pas être mentionné dans une publication sans autorisation écrite préalable de l'établissement auteur. Le titre exact paraît au-dessus du résumé de chaque rapport. Les rapports statistiques sont résumés dans la revue *Résumés des sciences aquatiques et halieutiques*, et ils sont classés dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros 1 à 25 de cette série ont été publiés à titre de relevés statistiques, Services des pêches et de la mer. Les numéros 26 à 160 ont été publiés à titre de rapports statistiques du Service des pêches et de la mer, ministère des Pêches et de l'Environnement. Le nom actuel de la série a été établi lors de la parution du numéro 161.

Les rapports statistiques sont produits à l'échelon régional, mais numérotés à l'échelon national. Les demandes de rapports seront satisfaites par l'établissement auteur dont le nom figure sur la couverture et la page du titre. Les rapports épuisés seront fournis contre rétribution par des agents commerciaux.

Canadian Data Report of

Fisheries and Aquatic Sciences 857

1991

NOGAP B.2; CHEMICAL DATA FROM THE CANADIAN BEAUFORT SEA SHELF, 1984 TO 1988

by

M.J. Lawrence, M.A. Bergmann, G.E. Hopky,

D.B. Chiperzak and M.A. Keast

Central and Arctic Region

Department of Fisheries and Oceans

Winnipeg, Manitoba R3T 2N6

This is the 66th Data Report

from the Central and Arctic Region, Winnipeg

92-01574/

PREFACE

This study was funded by the Northern Oil and Gas Action Program (NOGAP), through the Canadian Department of Fisheries and Oceans, Central and Arctic Region. It is one of a series of projects being executed under NOGAP B.2, to provide background data for assessing the implications of hydrocarbon development and production on critical estuarine and marine habitats of the Canadian Arctic Coastal Shelf. This document constitutes NOGAP Report B2.44.

© Minister of Supply and Services Canada 1991

Cat. no. Fs 97-13/857E ISSN 0706-6465

Correct citation for this publication is:

Lawrence M.J., M.A. Bergmann, G.E. Hopky, D.B. Chiperzak, and M.A. Keast. 1991. NOGAP B.2; Chemical data from the Canadian Beaufort Sea Shelf, 1984 to 1988. Can. Data Rep. Fish. Aquat. Sci. 857: v + 60 p.

TABLE OF CONTENTS

ABSTRACT/RÉSUMÉ v

INTRODUCTION 1

METHODS 2
STATIONS 2
POSITIONING 2
WINTER FIELD SAMPLING 2
OPEN WATER SAMPLING 3
SAMPLE-HANDLING AND ANALYSIS PROCEDURES 3
FIELD PROCESSING 3
LABORATORY PROCESSING 3
Dissolved oxygen 3
Nutrients 3
Total suspended solids 4
Chlorophyll 4
Dissolved inorganic carbon 4
Alkalinity 4
pH 4
Particulate carbon, nitrogen and phosphorus 4
Conductivity 4
METHOD PRECISION 5

RESULTS AND DISCUSSION 5

ACKNOWLEDGMENTS 6

REFERENCES 6

Table 1. Method precision for analyses perfomed at FWISL 8

LIST OF FIGURES

Figure Page

1 Location of Beaufort Sea Shelf study area 9
2 Station locations for chemistry samples taken in March and May 1986 10
3 Station locations for chemistry samples taken in March and May 1987 11
4 Station locations for chemistry samples taken in March 1988 12
5 Station locations for chemistry samples taken in 1984. 13

Figure Page

6 Station locations for chemistry samples taken in July 1985 14
7 Station locations for chemistry samples taken in August 1985 15
8 Station locations for chemistry samples taken in September 1985 16
9 Station locations for chemistry samples taken in July 1986 17
10 Station locations for chemistry samples taken in August 1986 18
11 Station locations for chemistry samples taken in September 1986 19
12 Station locations for chemistry samples taken in July 1987 20
13 Station locations for chemistry samples taken in August 1987 21

LIST OF APPENDICES

Appendix Page

1 Station parameter tables 22
2 Chemistry data tables 32

ABSTRACT

Lawrence, M.J., M.A. Bergmann, G.E. Hopky, D.B. Chiperzak, and M.A. Keast. 1991. NOGAP B.2; Chemical data from the Canadian Beaufort Sea Shelf, 1984 to 1988. Can. Data Rep. Fish. Aquat.Sci. 857: v + 60 p.

The NOGAP B.2 program was established in 1984 and was designed to study the marine and estuarine habitats on the Canadian Beaufort Sea Shelf. As part of this study, we measured both biological and chemical water properties of samples collected through the ice (March and May) and from the *M.V. Sequel* from July to September during the open water season. In this report we present all the chemical oceanographic measurements made by the Department of Fisheries and Oceans, Central and Arctic Region from years 1984 through 1988. A total of 565 water samples were collected from 201 stations and as many as 17 chemical determinations were made on each sample. The chemical measurements made on bottle samples include nitrate, nitrite, soluble reactive silicate, total dissolved nitrogen, soluble reactive phosphate, dissolved inorganic and organic carbon, particulate carbon, phosphorus and nitrogen, conductance, pH, alkalinity, chlorophyll, dissolved oxygen and total suspended solids.

Keywords: Arctic; Beaufort Sea; nutrients; oceanography; chlorophyll; estuarine; marine; nearshore.

RÉSUMÉ

Lawrence, M.J., M.A. Bergmann, G.E. Hopky, D.B. Chiperzak, and M.A. Keast. 1991. NOGAP B.2; Chemical data from the Canadian Beaufort Sea Shelf, 1984 to 1988. Can. Data Rep. Fish. Aquat.Sci. 857: v + 60 p.

Le programme PIPGN B.2 a été mis sur pied en 1984 et a été conçu dans le but d'étudier les habitats marins et estuariens sur la plate-forme continentale de la partie canadienne de la mer de Beaufort. Dans le cadre de cette étude, nous avons mesuré les propriétés biologiques et chimiques de l'eau à partir d'échantillons recueillis à travers la glace (en mars et en mai) et en eau libre, à bord du navire *M. V. Sequel*, entre juillet et septembre. Le présent rapport comprend toutes les mesures océanographiques de nature chimique effectuées par le Ministère des Pêches et des Océans, région du Centre et de l'Arctique, de 1984 à 1988. On a recueilli un total de 565 échantillons d'eau prélevés dans 201 stations d'échantillonnage et chaque échantillon a subi jusqu'à 17 analyses chimiques différentes. Ces analyses, réalisées sur des échantillons en bouteille, portaient sur le nitrate, le nitrite, le silicate réactif soluble, l'azote dissous total, le phosphate réactif soluble, le carbone inorganique et organique dissous, le carbone particulaire, le phosphore et l'azote, la conductance, le pH, l'alcalinité, la chlorophylle, l'oxygène dissous et les solides en suspension totaux.

Mots-clés : arctique; mer de Beaufort; éléments nutritifs; océanographie; chlorophylle; estuarien; marin; littoral.

INTRODUCTION

As part of a multi-disciplinary study to measure the importance of the marine and estuarine habitats on the Canadian Beaufort Sea Shelf (< 200m), chemical oceanographic data were collected from the nearshore areas and are presented in this report. The Beaufort Sea Shelf is of great interest economically and biologically (R. Clarke, personal communication, Freshwater Institute, Winnipeg). This region has been intermittently studied from these perspectives for short periods of time and is known to be important habitat for marine and anadromous fishes (Craig 1984 and Lawrence et al. 1984), as well as marine mammals including seals, walrus, beluga and bowhead whales (Würsig et al. 1985). Less is known of their food sources and resources. The prospect of ongoing resource development in the area has increased the importance of a solid database network of biological and ecological processes. In the past, other researchers have restricted their chemical/analytical investigations to short term (up to 1 month) study periods and have been unable to clearly define the range and variance in the elements sampled. In our study, the sampling area covered approximately 5000 square kilometres, extending as far east as Whale Bluffs at 128°W longitude and as far west as Herschel Island at 138°W. The study area is shown in Fig. 1.

Under the *Northern Oil and Gas Action Program* (NOGAP), and specifically the Critical Arctic Estuarine and Marine Habitat Project (B.2), water samples were collected for five years (1984-1988) by staff of the Department of Fisheries and Oceans, Central and Arctic Region. These samples were taken during the open water season as well as during the winter and spring ice-on period.

Open-water samples were routinely taken aboard the *M. V. Sequel* (12 m wooden hulled vessel), a chartered vessel based out of Tuktoyaktuk, Northwest Territories. The vessel had an operating range of approximately one week.

In this report we summarize analyses performed on nutrients (soluble reactive silicate, soluble reactive phosphorus, nitrate and nitrite), suspended solids, particulate carbon, nitrogen, and phosphorus, total dissolved phosphorus, dissolved inorganic carbon, dissolved organic carbon, total suspended solids, conductance, pH, alkalinity, dissolved oxygen and chlorophyll. These data were collected in conjunction with CTD data (Hopky et al. 1986, 1987, 1988a, 1988b), plankton data (Parsons et al. 1989 and Chiperzak et al. 1991), benthic data and fish data (Chiperzak et al. 1990, 1991). These extensive data sets form the baseline criteria defining the composition and movement of the various water masses influencing the highly dynamic shallow water area of the Beaufort Sea Shelf (Macdonald et al. 1987). The chemical signal of the water masses allows predictions of algal productivity, mass balance calculations, and mixing rates for the area. In addition, the chemistry data assists in the interpretation of biological information obtained concurrently at the same sampling locations, which supports the major objective of the NOGAP B.2 project: to identify and characterize significant estuarine and marine habitats to the biological communities. On the basis of our findings reported here, seasonal and annual differences are compared.

METHODS

STATIONS

During the ice-on season, station locations were designed to delineate the nearshore coastal area in relation to the edge of the landfast ice (centred near Tuktoyaktuk N.W.T.), and were restricted by logistic constraints as defined by ice conditions. Summer stations were selected on the basis of a number of constraining criteria such as open water extent, vessel range and availability, and weather. Locations were designated on the basis of year and the sample station number within each year. An example of a typical station number would be 84001; this refers to the year: 1984; and the chronological station location order for the season - this was the first station sampled in the year. If a station was sampled on more than one occasion in any year, the original station identifier was used.

POSITIONING

In 1984 station locations were mapped using a combination of radar (Furuno Model CR240) fixes back to shore, bathymetric charts (Hydrographics series) and a satellite navigation system (Magnavox Model MX4102) with a nominal accuracy of $\pm$0.1 km.

In March and May 1985, 1986 and 1987, all sampling was performed through the ice and all except two stations were defined using Global Navigation System (GNS) positioning equipment, aboard a chartered Twin Otter (DH6) or Bell 206L helicopter. Stations 85051 and 85052 were located nearshore and reached by ice road. Positions were determined directly from land maps (NTS series; 1:50,000). Figures 2, 3 and 4 show the station locations visited in 1986, 1987 and 1988 respectively during the ice-on season. Station 86001 was located by measuring the distance (vehicle odometer readings) from shore and aircraft flypasts. Stations 86030 and 86031 were located by visually estimating the distances from nearby landforms and aircraft flypasts. Station 87011 was located by visually estimating the distance from shore and aircraft flypasts. During the sampling periods in March 1988, chemistry samples were taken through the ice and station locations were determined by measured odometer distances from reference points on land, and aircraft flypasts.

During the open water periods from July to September 1984 to 1987 inclusive, water samples were taken from aboard the *M.V. Sequel*. The extent of each survey was dependent upon a number of factors including distribution of ice, vessel range and sea conditions. Station coordinates were determined using one of the following methods: 1) satellite navigation - JRC Model JLE-3850 with a nominal accuracy of $\pm$0.1 km; 2) visual and radar (Furuno Model CR240) fixes to shore in combination with 1:250,000 bathymetric charts. Sampling locations visited in 1984 through 1987 are shown in Fig. 5 to 13. In August 1987, a number of water samples were collected from aboard the CSL *J.P. Tully*.

WINTER FIELD SAMPLING

For each sampling station, 25 cm diameter holes were drilled through a maximum of 3 m of sea ice and 5 L Van Dorn bottle casts were made using a metered line to obtain samples from a number of water column depths. Due to the physical disturbance of the water proximal to the sampling hole, the most shallow

samples were never taken from less than 2 m depth. During freezing sampling conditions, bottles were transferred within 5 minutes to a heated area ($>5^{\circ}C$) to prevent any freezing of samples.

OPEN WATER SAMPLING

During the open water season and aboard the *M.V.Sequel*, single depth bottle casts were made with a 3 L Van Dorn sampler, usually from the aft port chain. Aboard the CSL *J.P. Tully*, all samples from one station were taken with 5 L Niskin bottle samplers from a single cast to minimize temporal changes.

SAMPLE HANDLING AND ANALYSIS PROCEDURES

Field processing

Subsampling of water from the bottles followed normal oceanographic procedures for dissolved oxygen (DO) first, followed by nutrients (NO3, PO4, SI) and chlorophyll (CHL). Water was emptied into a twice-rinsed 2 L dark, polyethylene bottle and processed for other analyses: dissolved inorganic carbon (DIC), dissolved organic carbon (DOC), total dissolved nitrogen (TDN), particulate organic carbon, phosphorus and nitrogen (PC,PP,PN), pH, conductance (COND), alkalinity (ALK) and total suspended solids (TSS). Samples and water bottles were protected from direct sunlight whenever possible.

When sampling was performed on cruises of less than one full day, all subsequent sample processing was performed back at the laboratory in Tuktoyaktuk. On longer cruises samples were processed whenever possible, almost always within 48 hours. Stations sampled for water chemistry were also sampled for salinity and temperature and the data are reported elsewhere (Hopky et al. 1986, 1987, 1988a, 1988b). Biological sampling for plankton, benthos, and fish was also undertaken at many of the same stations: these results will be published as future reports.

Laboratory processing

All DO, pH and conductivity analyses were performed either in the field or at the Tuktoyaktuk laboratory. In 1986, water samples were sent to D.F.O. laboratory personnel in Inuvik for DIC analysis. Otherwise, all other analyses were carried out at the FWISL by Stainton and coworkers.

Dissolved oxygen: Samples were kept cold and dark within an insulated cooler during transport to the Tuktoyaktuk laboratory. Dissolved oxygen samples were "fixed" directly in the 500 mL reagent bottles within 1 hour of sampling and determinations were made following the Winkler technique (Carpenter, 1965). Calibration of the thio-sulphate solution was carried out at least one time per season using KIO_3. Analyses were completed within 24 hours of collection.

Nutrients: Samples were collected into twice rinsed polystyrene scintillation vials. For each water sample collected, one vial was refrigerated for silicate analysis and two additional vials were filtered through Whatman GF/C, the filtrate collected, and frozen in an upright position until analyzed, usually within three weeks. For all study years, nutrient determinations were performed by D.F.O. staff at the Freshwater Institute Science Laboratory (FWISL) using Technicon Autoanalyzer II

equipment and methods for soluble reactive silicate, soluble reactive phosphorous,nitrate and nitrite according to Stainton et al. (1977).

Total suspended solids: Sub-sampled volumes for TSS were processed back in the Tuktoyaktuk laboratory. After gentle shaking of the 2 L water bottle, as much water as possible (usually 500 mL, but volumes of water ranged from 50 mL to 1000 mL) was filtered through a pre-washed and pre-weighed 47 mm, 0.4 μm Nuclopore filter using standard Millipore filtration apparatus. The maximum vacuum was < 150 mm Hg. The filter perimeter was rinsed after the castle had been removed. Blanks were prepared following the same procedure as the water samples. Filters were stored in new petri-dishes in a freezer and shipped to FWISL for dry-weight determination (Stainton et al. 1977).

Chlorophyll: Sample volumes of less than 1.00 L were filtered through 42.5 mm Whatman GF/C glass fibre filter. The filters were stored, folded in half, in petri-slides, kept frozen in a freezer and later shipped to FWISL. Chlorophyll was determined fluorometrically with a Turner Model 111 following dark extraction in 95% methanol for a minimum of 16 hours (modification of Stainton et al. 1977).

Dissolved inorganic carbon: Twice rinsed glass water bottles were filled with sample water, preserved with 100 μL HgCl, and stored at 5 $^{\circ}$C. Samples were shipped to the FWISL or to the Inuvik laboratory (1986) and were analyzed using an automated GIC model 600 inorganic carbon analyzer.

Alkalinity: Water samples were stored in plastic scintillation vials and shipped to FWISL for analysis (Stainton et al. 1977).

pH: Plastic bottles were used to store water samples for pH analysis and held at 5 $^{\circ}$C for less than 24 hours prior to determination. During cruises, pH measurements were made *in situ* directly aboard the vessel and otherwise were made in the laboratory using a standard YSI meter.

Particulate carbon, nitrogen and phosphorus: Vacuum-filtered (< 150 mm Hg) water samples (< 1.00 L) were filtered through single 47 mm diameter pre-combusted (500 $^{\circ}$C for 1 h) Whatman GF/C filters. Air-dried filters were stored inside pre-combusted glass vials for particulate phosphorus and in petri-slides for particulate carbon and nitrogen, and returned to FWISL for analysis. Blank filters were prepared in an identical manner without filtering a water sample.

Conductivity: Water samples were put in twice-rinsed glass water bottles and stored at 5 $^{\circ}$C. Prior to measurement, samples were brought to 25 $^{\circ}$C in a water bath. A YSI meter was used and was standardized against a KCl solution at the beginning of each season.

METHOD PRECISION

For many of the analyses performed by the staff of the FWISL, estimates of method precision were taken from Stainton et al. (1977 - Table 11) and are shown in Table 1. Replicate samples (n=6) of the synthetic standards were analyzed in the laboratory under routine conditions, indicating the precision limits for the pure chemical standards and instrumentation. These results do not include error estimates

involved in water sampling using the collections methods outlined above or any point source variability. The actual working precision on the samples is 5% to 20%.

RESULTS AND DISCUSSION

The results in this report are given in tables and figures in Appendix 1 and 2. The Appendix 1 comprises tables generated for each year sampled, giving the station location parameters including: Station identifier, date and time, location and total station depth (Appendix 1, Tables 1 to 5). Attempts were made to revisit sites to allow for within- and between-year comparisons; these comparisons will be the subject of future reports. The most intensely studied areas were near Herschel Island and Kugmallit Bay.

In Appendix 2, values for the biological and chemical analyses are presented using the International System of Units (SI) and follows the outline of related NOGAP studies in the same area, carried out by investigators (Macdonald et al. 1988) at the Institute of Ocean Sciences (D.F.O). Values are expressed to the precision warranted by each analytical procedure.

The values obtained and reported in Appendix 2 were checked for consistency by comparing samples in three ways:

1. When more than five water column samples were taken from one station, a plot of the depth profile was viewed for outliers.
2. Data values generated from samples taken during the same time period, from the same depth and from adjacent stations, were checked for major discrepancies.
3. Data obtained from the same station during sequential sampling periods were checked for consistency.

In 1984, a total of 15 stations were sampled from July to September and results of analyses for PN, PC, CHL and TSS are shown in Appendix 2, Table 1. Logistic and sample handling difficulties prevented a more extensive sampling schedule.

With the experience attained from the previous year, a concerted effort was made in 1985 to collect not only a greater number of samples on a spacial and temporal basis but also to make a greater suite of chemical determinations on each sample. As a result, a total of 56 stations were sampled from July to September and the chemical determinations (six parameters) are given in Appendix 2, Table 2.

The most extensively sampled seasons were 1986 and 1987, when 71 and 55 stations were visited respectively. A total of 246 water samples were collected in 1986 and 186 samples in 1987. As many as 17 chemical determinations were performed on each water sample. Sampling was initiated during the ice-on season as early as March and open-water season sampling extended to the end of September. The data are given in Appendix 2, Tables 3a, 3b, 4a and 4b.

In 1988 water samples were collected over a few days in March, and the results are given in Appendix 2, Table 5.

The data presented in this report are available to users on electronic media by individual request only. The data reside on 7-track ANSI standard tape, 8mm tape or on IBM standard 5¼" or 3½" floppy diskettes both in ASCII and WordPerfect 5.0 format. Please contact author, Martin Bergmann, for details.

ACKNOWLEDGMENTS

This work was funded through the **Department of Fisheries and Oceans** as part of the *Northern Oil and Gas Action Program*. We thank the various crews of the chartered vessel (*M.V. Sequel*) and aircraft for their assistance, their considerable skills and dedication. We also wish to thank the Polar Continental Shelf Project of the Department of Energy Mines and Resources, Tuktoyaktuk, N.W.T., for logistic support. Ice and weather information was provided by the personnel at Canmar Marine and Beaudrill Marine, Tuktoyaktuk, N.W.T. We also thank R. Macdonald from D.F.O. Institute of Ocean Sciences for his assistance in the outline of the report. M. Stainton made numerous useful suggestions to improve the report and S. McRae provided editorial assistance. Finally, we would like to thank the assistance of the numerous support staff in the collection and processing of the samples.

REFERENCES

Carpenter, J.H. 1965. The Chesapeake Bay Institute technique for the Winkler dissolved oxygen method. Limnol. Oceanogr. 10:141-143.

Chiperzak, D.B., G.E. Hopky, M.J. Lawrence, and G. Lacho. 1990. Marine ichthyoplankton data from the Canadian Beaufort Sea Shelf, July and September, 1984. Can. Data Rep. Fish. Aquat. Sci. 779: v + 45 p.

Chiperzak, D.B., G.E. Hopky, and M.J. Lawrence. 1991. Fish catch data from the landfast ice of the Mackenzie River Estuary, March 1985 and May 1986, 1987. Can. Data Rep. Fish. Aquat. Sci. 847: v + 28 p.

Craig, P. 1984. Fish use of coastal fishes of the Beaufort Sea. Trans. Am. Fish. Soc. 113: 265-282.

Hopky, G.E., D.B. Chiperzak, and M.J. Lawrence. 1986. Seasonal salinity, temperature and density data for the Canadian Beaufort Sea Shelf, 1984-1985. Can. Data Rep. Fish. Aquat. Sci. 593: iv + 249 p.

Hopky, G.E., D.B. Chiperzak, and M.J. Lawrence. 1987. Seasonal salinity, temperature and density data for the Canadian Beaufort Sea Shelf, 1986. Can. Data Rep. Fish. Aquat. Sci. 661: iv + 268 p.

Hopky, G.E., D.B. Chiperzak, and M.J. Lawrence. 1988a. Seasonal salinity, temperature and density data for the Canadian Beaufort Sea Shelf, 1987. Can. Data Rep. Fish. Aquat. Sci. 685: iv + 162 p.

Hopky, G.E., D.B. Chiperzak, and M.J. Lawrence. 1988b. Salinity, temperature and density data for the Canadian Beaufort Sea Shelf, March 1988. Can. Data Rep. Fish. Aquat. Sci. 712: iv + 17 p.

Lawrence, M.J., G. Lacho, and S. Davies. 1984. A survey of the coastal fishes of the Southeastern Beaufort Sea. Can. Tech. Rep. Fish. Aquat. Sci. 1220: x + 178 p.

Macdonald, R.W., C.S. Wong, and P.E. Erickson. 1987. The distribution of nutrients in the southeastern Beaufort Sea: implications for water circulation and primary production. J. Geophys. Res. 92: 2939-2952.

Macdonald, R.W., K. Iseki, M.C. O'Brien, F.A. McLaughlin, D. McCullough, D.M. Macdonald, E.C. Carmack, M. Yunker, S. Buckingham, and G. Miskulin. 1988. NOGAP B.6; Volume 5:

Chemical data collected in the Beaufort Sea and Mackenzie River Delta, March-July 1987. Can. Data Rep. Hydrogr. Ocean Sci. 60: 56 p.

Parsons, T.R., D.G. Webb, B.E. Rokuby, M. Lawrence, G.E. Hopky and D.B. Chiperzak. 1989. Autotrophic and heterotrophic production in the Mackenzie River/Beaufort Sea estuary. Polar Biol. 9: 261-266

Stainton, M.P., M.J. Capel, and F.A.J. Armstrong. 1977. The chemical analysis of freshwater. 2nd ed. Can. Fish. Mar. Serv. Misc. Spec. Publ. 25: 180 p.

Würzig, B., E.M. Dorsey, M.A. Fraker, R.S. Payne, and W.J. Richardson. 1985. Behavior of bowhead whales, Balaena mysticetus, summering in the Beaufort Sea: A description. U.S. Fish. Wildl. Serv. Fish. Bull. 83: 357-377.

Table 1. Method precision for analyses performed at FWISL.

Analysis	Level	Method Error (±)
Dissolved inorganic carbon	1 $mol \cdot m^{-3}$	1%
Dissolved organic carbon	1 $mol \cdot m^{-3}$	2%
Particulate carbon	20 $mmol \cdot m^{-3}$	4%
Nitrate - nitrogen	20 $mmol \cdot m^{-3}$	1%
Nitrite - nitrogen	20 $mmol \cdot m^{-3}$	1%
Ammonia - nitrogen (total dissolved nitrogen)	40 $mmol \cdot m^{-3}$	1%
Particulate nitrogen	2 $mmol \cdot m^{-3}$	5%
Soluble reactive phosphorus	8 $mmol \cdot m^{-3}$	<1%
Particulate phosphorus	5 $mmol \cdot m^{-3}$	<1%
Soluble reactive silica	40 $mmol \cdot m^{-3}$	<1%
Specific conductance	0.14 $mS \cdot cm^{-1}$	<1%
pH	8.5	<1%

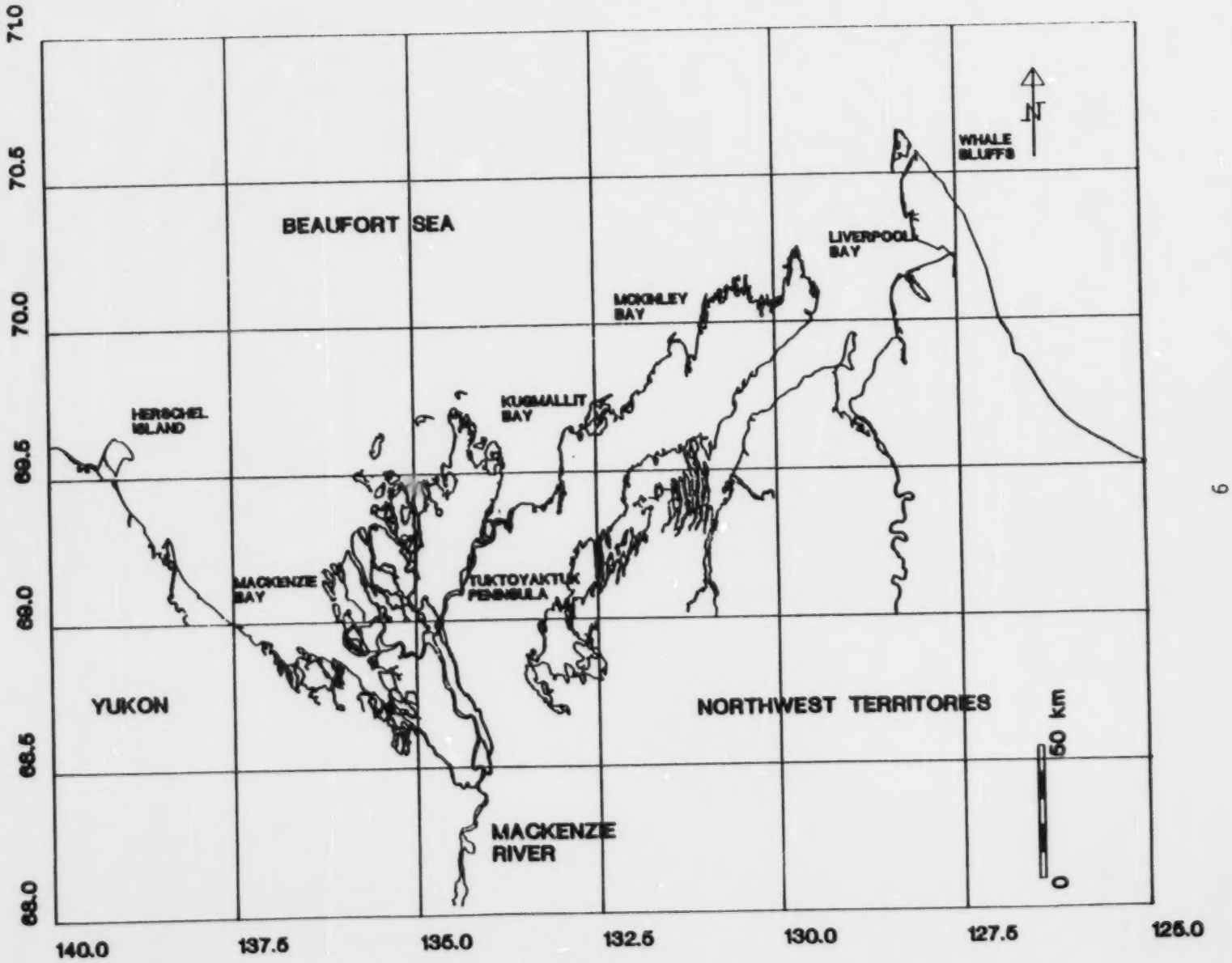

Figure 1. Location of Beaufort Sea Shelf study area.

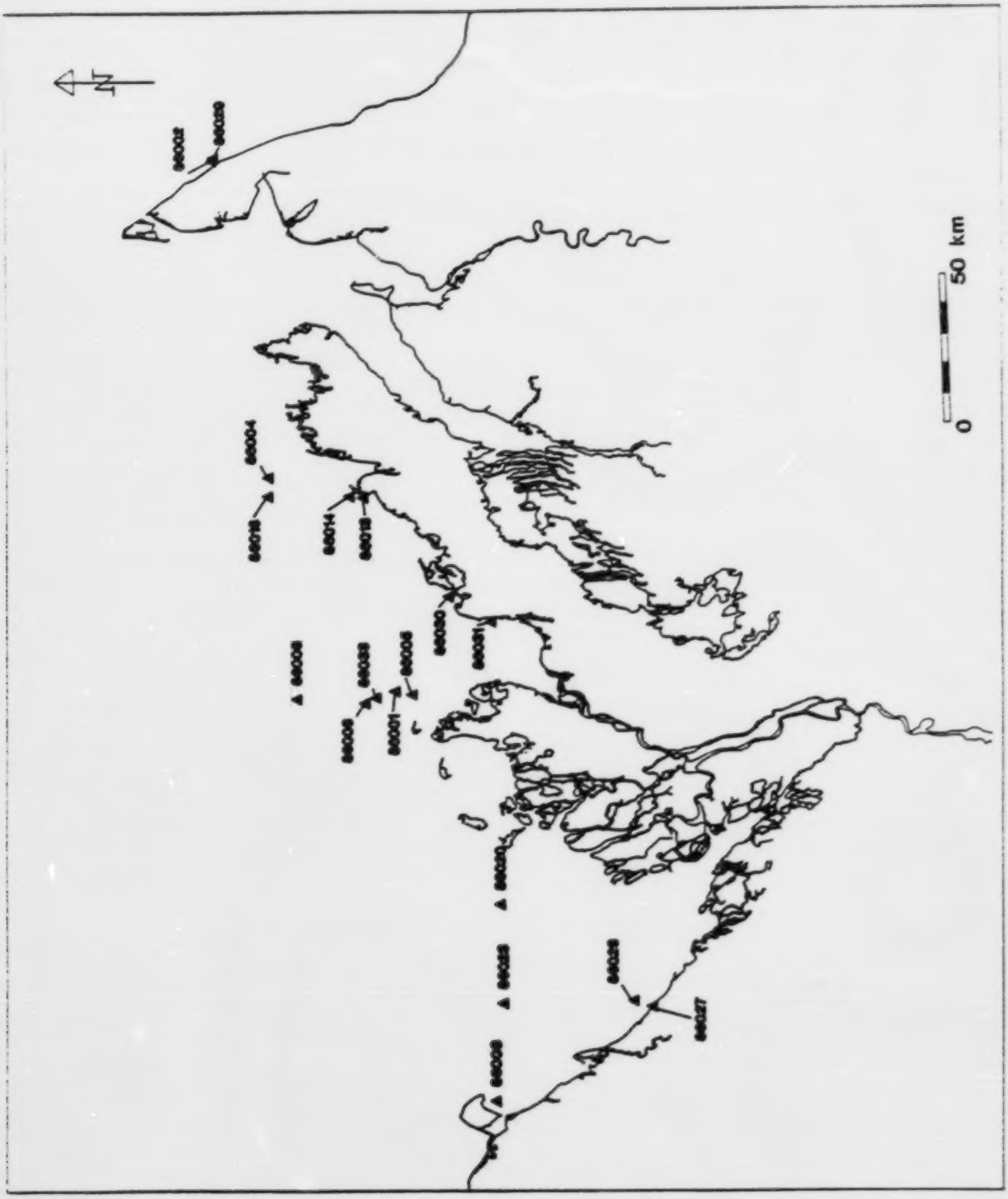

Figure 2. Station locations for chemistry samples taken in March and May 1986.

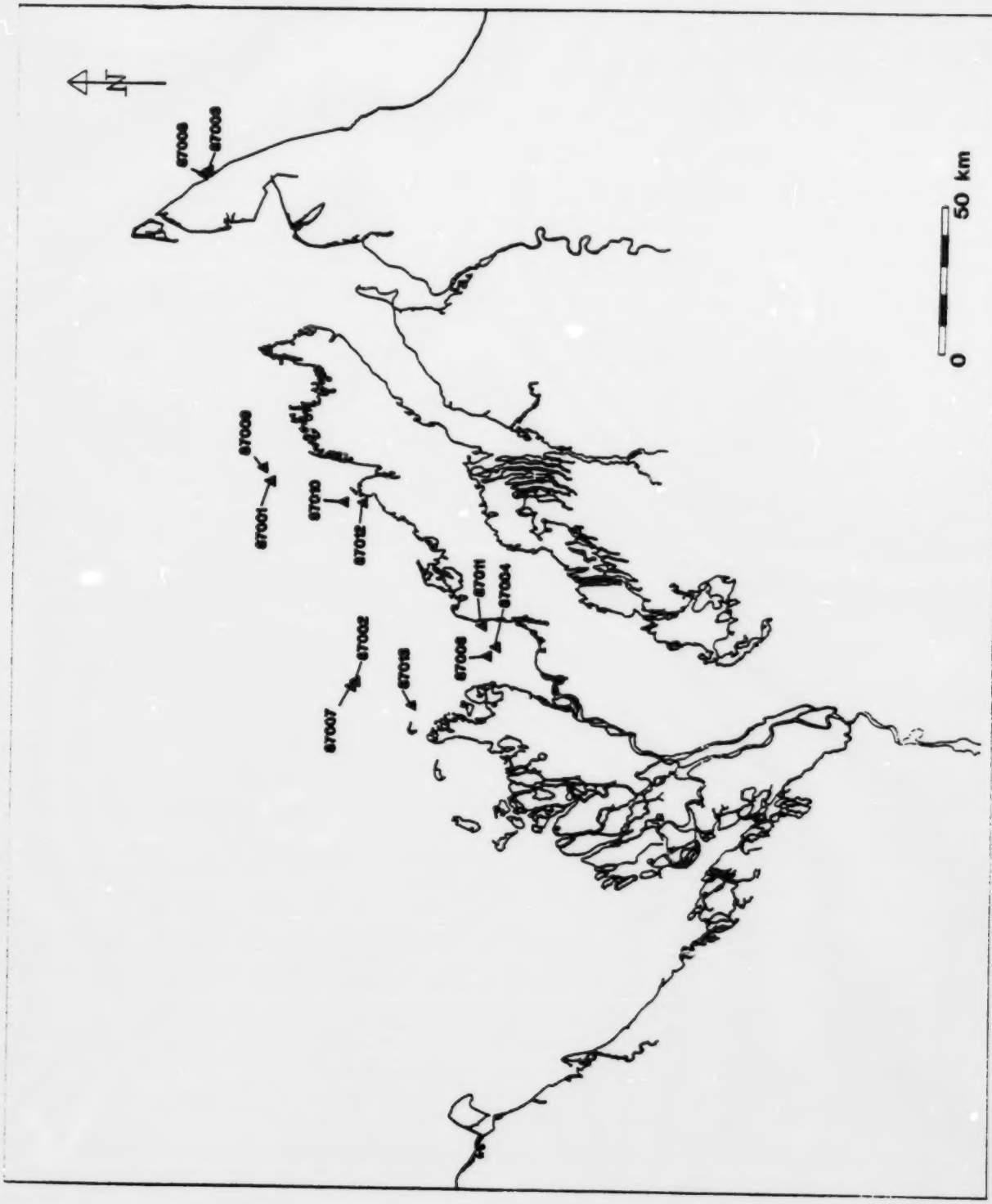

Figure 3. Station locations for chemistry samples taken in March and May 1987.

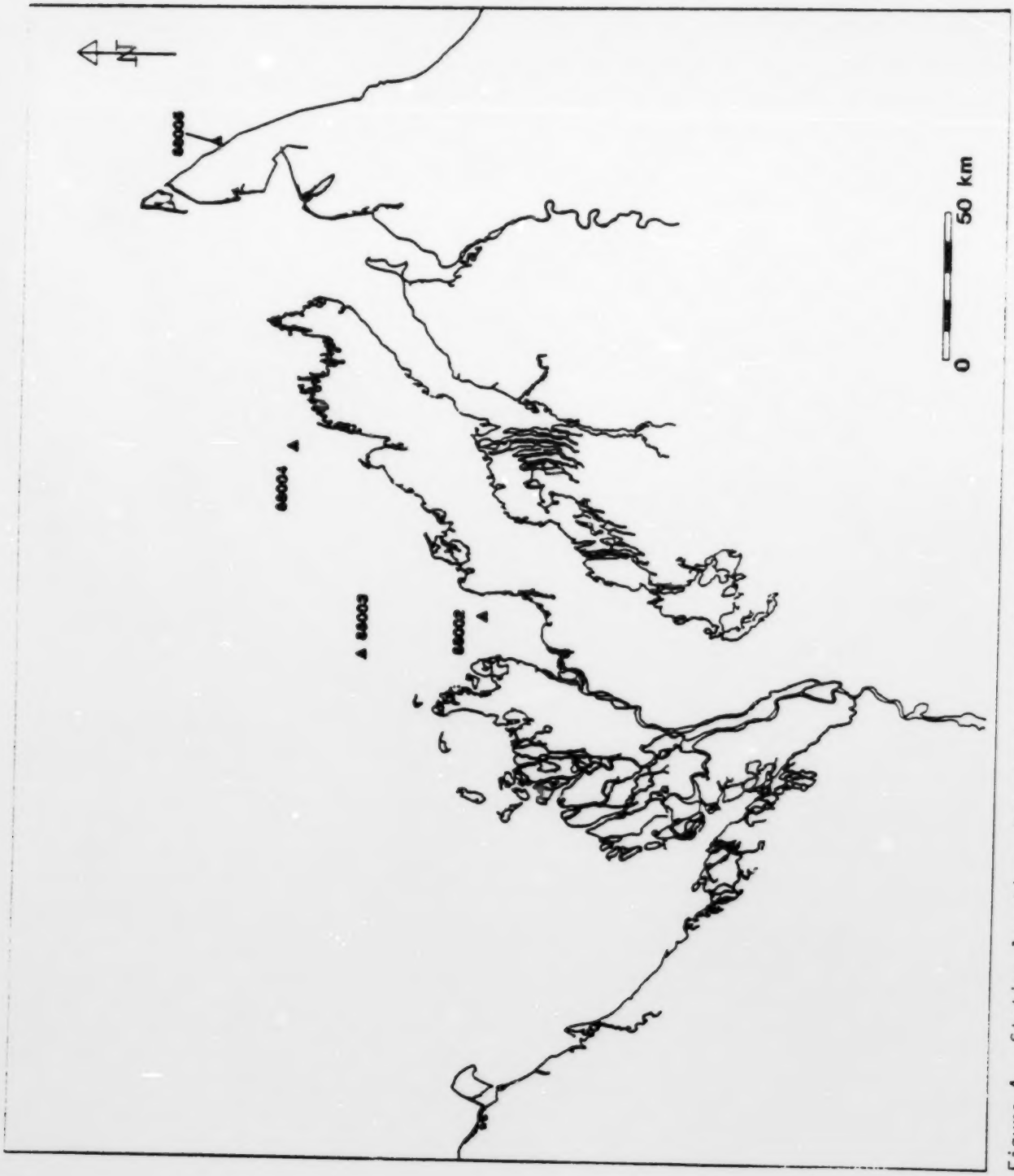

Figure 4. Station locations for chemistry samples taken in March 1988.

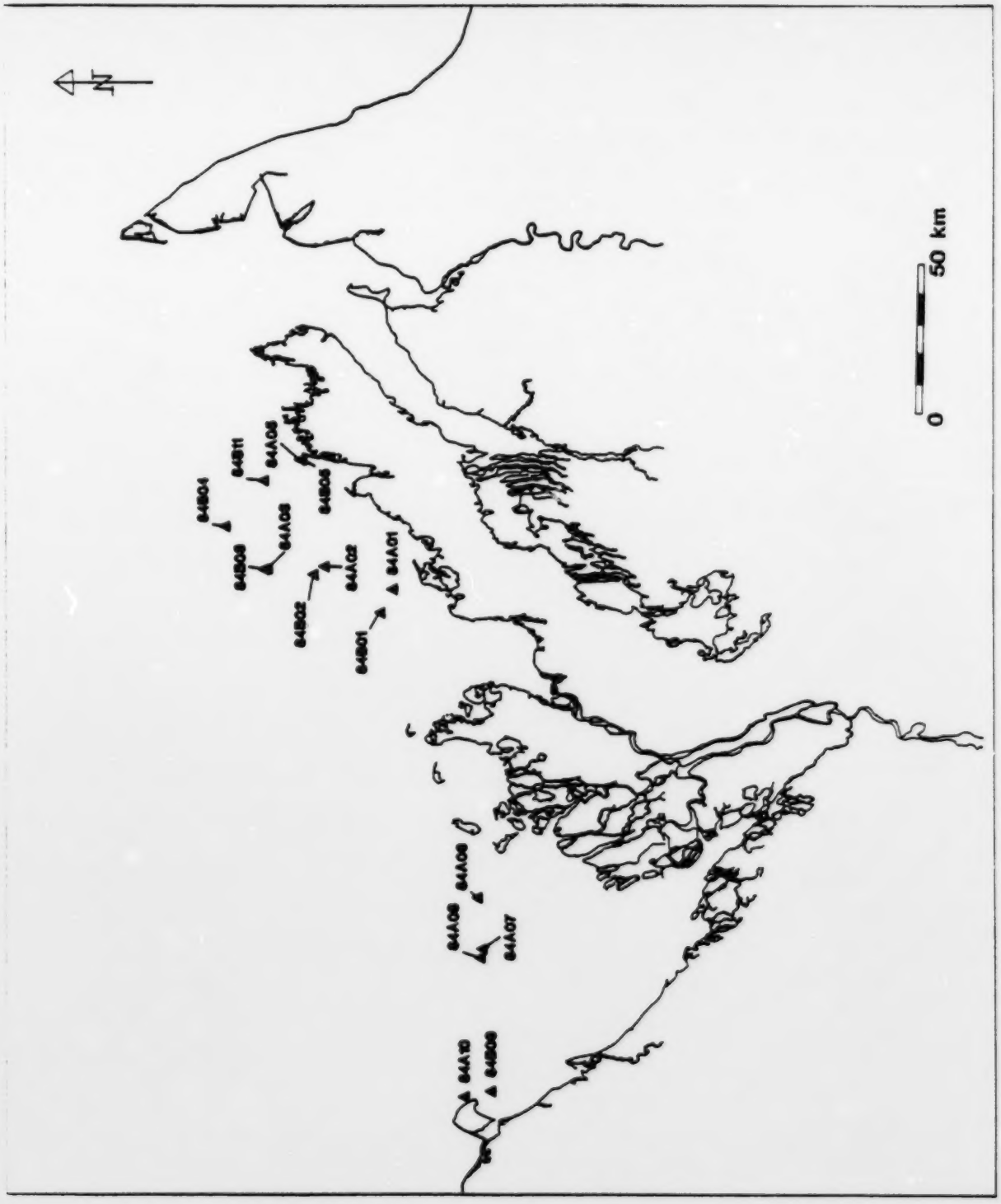

Figure 5. Station locations for chemistry samples taken in 1984.

Figure 6. Station locations for chemistry samples taken in July 1985.

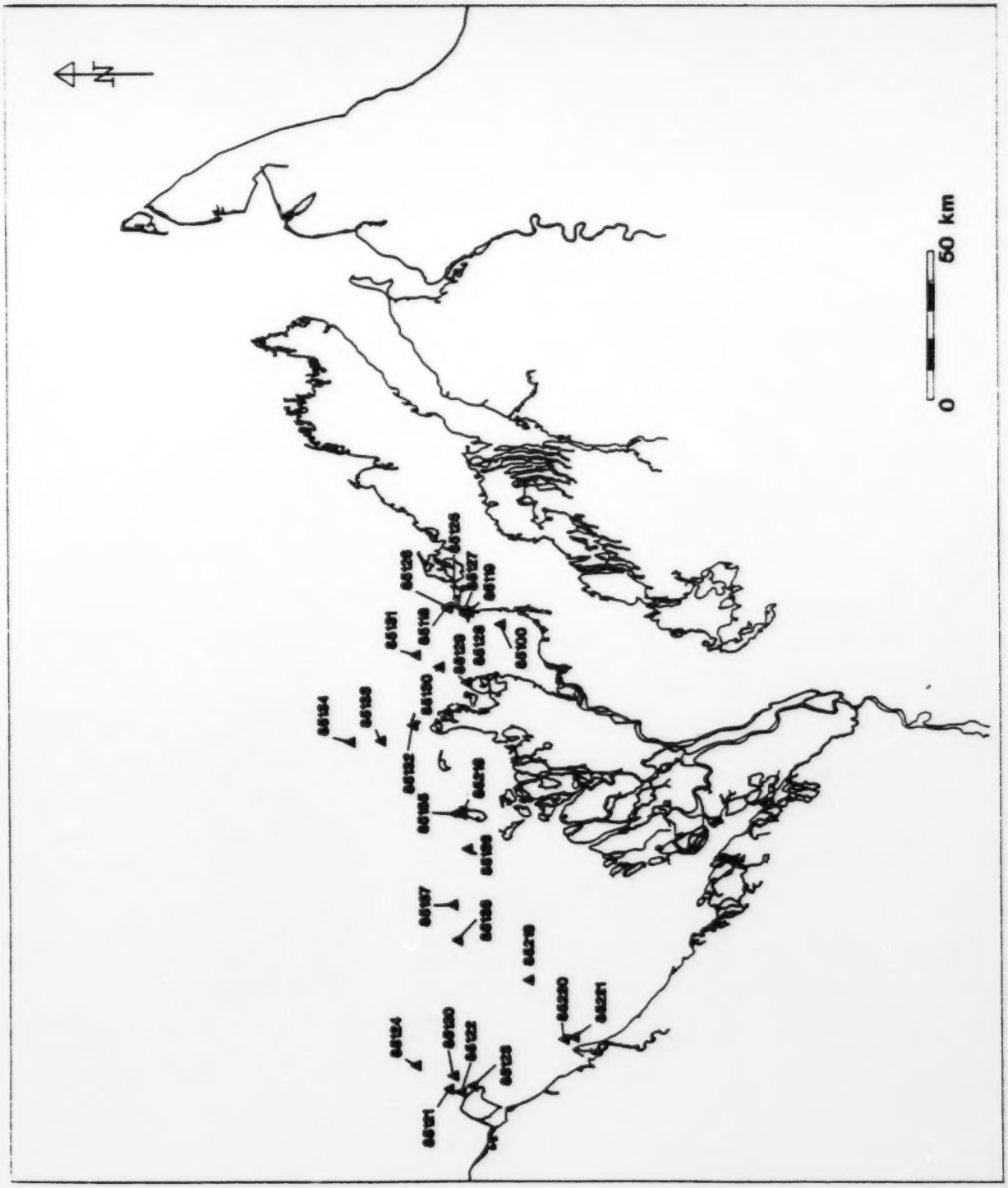

Figure 7. Station locations for chemistry samples taken in August 1985.

Figure 8. Station locations for chemistry samples taken in September 1985.

Figure 9. Station locations for chemistry samples taken in July 1986.

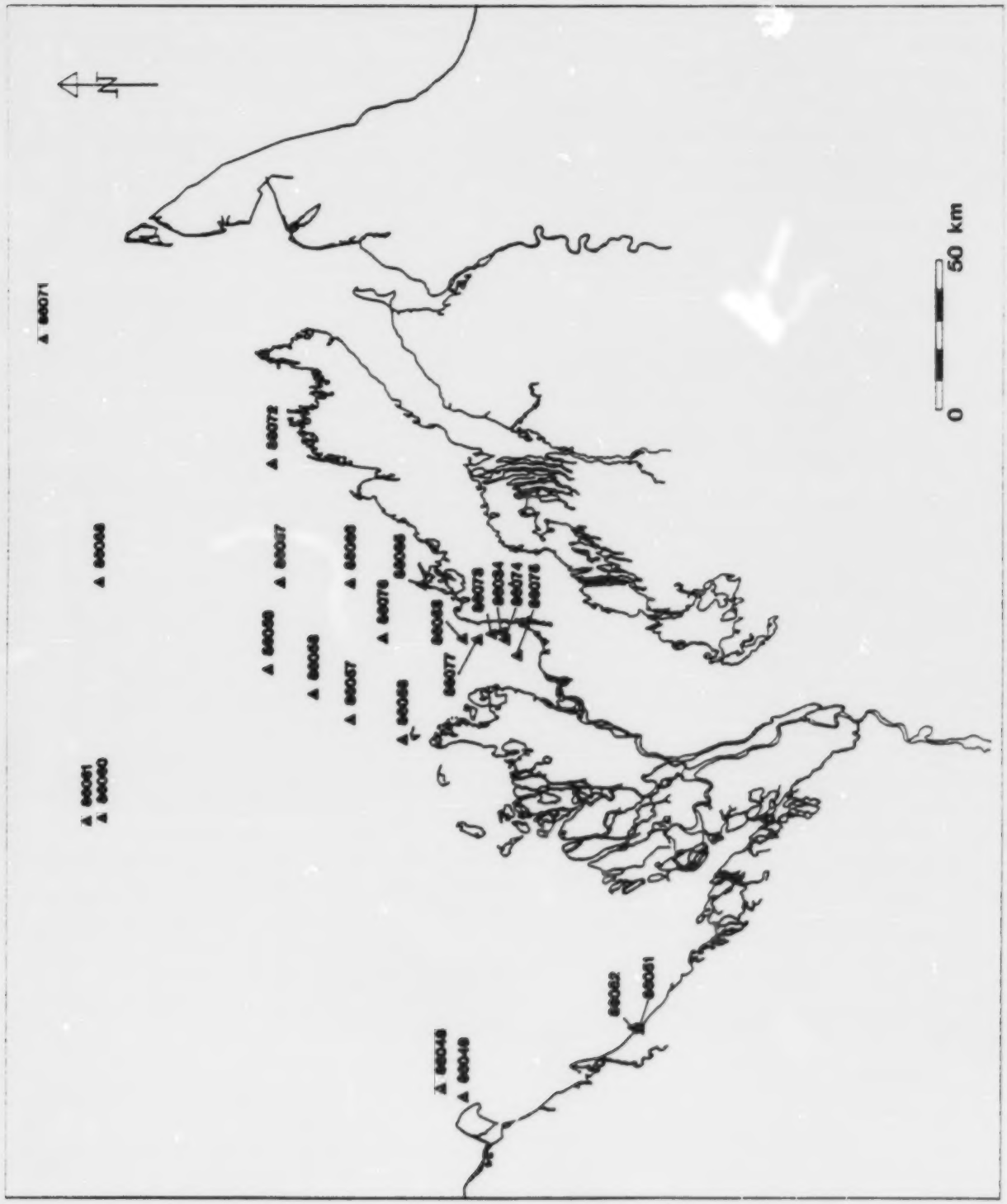

Figure 10. Station locations for chemistry samples taken in August 1986.

Figure 11. Station locations for chemistry samples taken in September 1986.

Figure 12. Station locations for chemistry samples taken in July 1987.

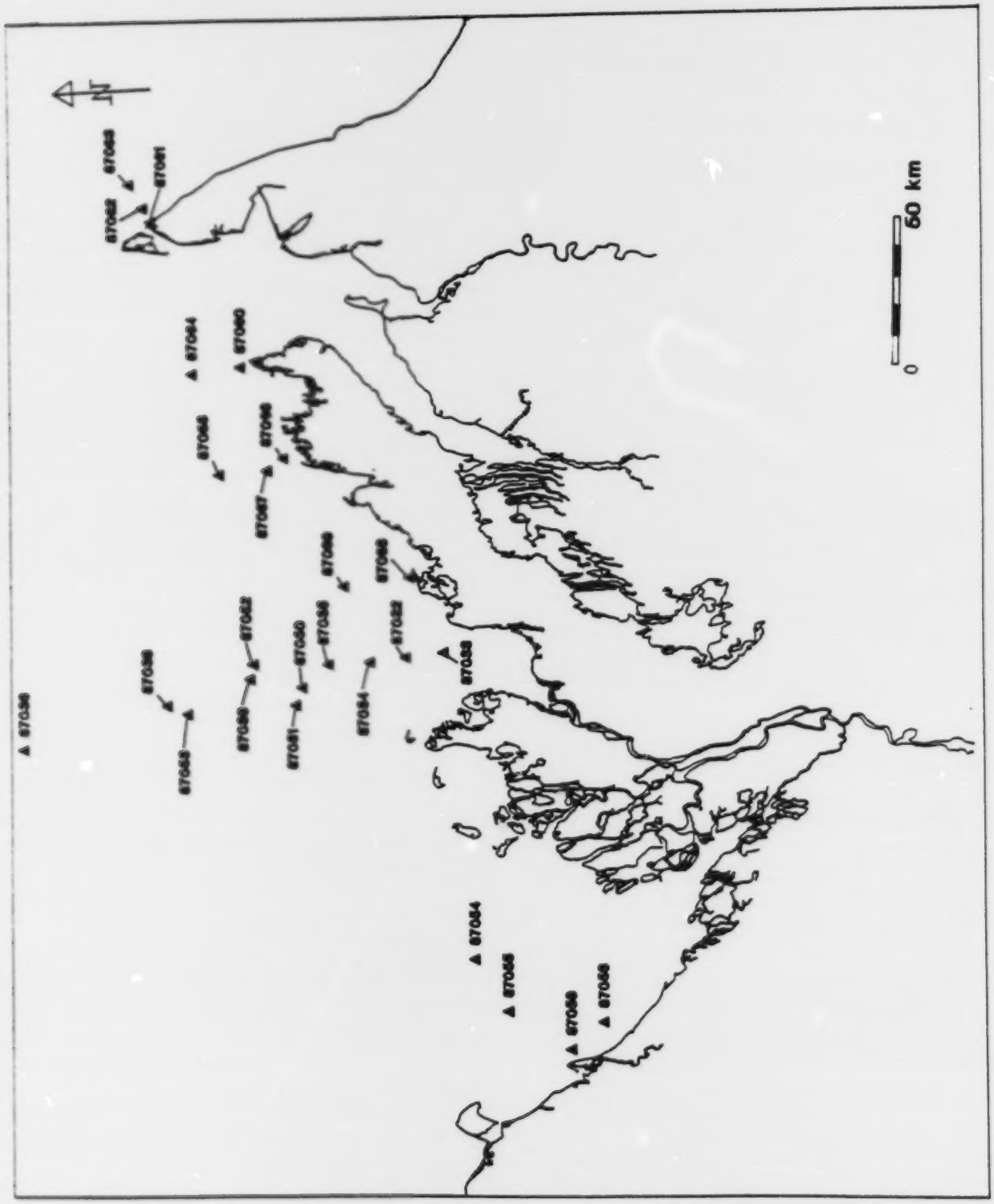

Figure 13. Station locations for chemistry samples taken in August 1987.

Appendix 1: Station Parameter Tables

Table 1. Summary parameters for stations sampled in the Beaufort Sea during 1984.

Station	Date	Station location	Latitude deg	Latitude min	Longitude deg	Longitude min	GMT[1]	Maximum Depth (m)
84A01	14-Jul	Tuft Point north	69	49.5	132	37.0	100	9
84A02	15-Jul	Tuft Point north	70	02.0	132	20.0	655	20
84A03	15-Jul	Tuft Point north	70	12.4	132	21.6	1820	30
84A05	16-Jul	McKinley Bay north	70	06.4	131	00.5	600	12
84A06	23-Jul	Garry Island west	69	34.1	136	22.5	1700	10
84A07	23-Jul	Garry Island west	69	33.2	137	00.1	2145	17
84A08	23-Jul	Garry Island west	69	33.6	137	06.4	15	34
84B09	24-Jul	Thetis Bay south	69	31.7	138	44.6	1730	14
84A10	24-Jul	Herschel Island north	69	36.5	138	49.0	2110	36
84B01	07-Sep	Toker Point north	69	51.8	132	54.0	2035	12
84B02	07-Sep	Tuft Point north	70	04.0	132	26.0	115	24
84B03	08-Sep	Tuft Point north	70	13.0	132	22.0	1620	34
84B04	08-Sep	Atkinson Point north	70	20.0	131	50.0	2100	36
84B05	09-Sep	McKinley Bay north	70	06.0	131	00.0	1445	12
84B11	09-Sep	McKinley Bay north	70	13.0	131	16.0	1755	25

[1]Greenwich mean time.

Table 2. Summary parameters for stations sampled in the Beaufort Sea during 1985.

Station	Date	Station location	Latitude deg	Latitude min	Longitude deg	Longitude min	GMT[1]	Maximum Depth (m)
85100	18-Jul	Topkak Point west	69	30.8	133	09.5	1845	4
85103	21-Jul	Toker Point west	69	37.8	133	11.2	1655	6
85104	22-Jul	Toker Point west	69	37.1	133	02.3	1740	6
85105	22-Jul	Toker Point west	69	36.5	132	59.8	2045	2
85110	25-Jul	Thetis Bay south	69	33.2	139	01.5	1600	6
85111	25-Jul	Thetis Bay south	69	31.6	138	59.8	1845	15
85113	25-Jul	Thetis Bay south	69	28.5	138	48.8	2330	64
85114	26-Jul	Kay Point east	69	16.9	138	20.2	1605	6
85115	26-Jul	Kay Point east	69	16.2	138	16.6	1820	15
85116	26-Jul	Sabine Point north	69	12.0	137	41.5	2135	29
85117	26-Jul	Shingle Point north	69	18.2	137	11.9	50	15
85118	03-Aug	Toker Point north	69	40.5	132	57.5	1710	6
85119	03-Aug	Toker Point west	69	36.5	133	00.0	1915	5
85100	03-Aug	Topak Point west	69	30.8	133	09.5	2215	5
85102	04-Aug	Kugmallit Bay west of Tuk	69	28.0	133	02.0	2125	5
85120	05-Aug	Herschel Island north	69	39.7	138	42.5	1745	100
85121	05-Aug	Herschel Island north	69	40.5	138.	52.5	2150	50
85122	05-Aug	Herschel Island north	69	38.3	138	54.7	120	30
85123	06-Aug	Herschel Island north	69	36.2	138	50.0	1710	15
85124	06-Aug	Herschel Island north	69	46.5	138	34.8	2000	150
85218	07-Aug	Pelly Island north	69	38.0	135	30.3	300	0
85219	07-Aug	Sabine Point north	69	25.9	137	32.3	2000	0
85220	07-Aug	Kay Point east	69	19.5	138	15.7	1720	0
85221	07-Aug	Kay Point east	69	17.7	138	14.0	1730	0
85125	09-Aug	Toker Point north	69	39.0	132	54.6	2155	3
85126	09-Aug	Toker Point north	69	40.3	132	56.5	2400	6
85127	09-Aug	Toker Point west	69	37.3	132	59.9	205	2
85128	09-Aug	Toker Point west	69	37.3	133	02.0	400	6

[1]Greenwich mean time.

Table 2. (cont'd).

Station	Date	Station location	Latitude deg	Latitude min	Longitude deg	Longitude min	GMT[1]	Maximum Depth (m)
85129	10-Aug	Summer Island north	69	37.0	133	52.5	1655	3
85130	10-Aug	Summer Island north	69	41.9	133	41.0	1925	6
85131	10-Aug	Summer Island north	69	46.2	133	32.0	2130	9
85132	10-Aug	Pullen Island north	69	46.8	134	24.2	230	4
85133	11-Aug	Pullen Island north	69	52.6	134	35.6	1630	11
85134	11-Aug	Pullen Island north	69	58.1	134	36.3	1925	15
85135	11-Aug	Pelly Island west	69	39.2	135	30.1	100	5
85136	12-Aug	Pelly Island west	69	37.0	135	56.4	1720	6
85137	12-Aug	Pelly Island west	69	39.7	136	37.4	2100	15
85138	12-Aug	Pelly Island west	69	38.9	137	03.3	2400	30
85102	02-Sep	Tuk Harbour west	69	28.1	133	01.2	2150	4
85200	07-Sep	Thetis Bay south	69	33.2	139	01.6	1550	5
85202	07-Sep	Thetis Bay south	69	31.0	138	55.5	2025	40
85203	07-Sep	Thetis Bay south	69	29.5	138	49.1	2250	57
85204	08-Sep	Herschel Island north	69	35.0	138	50.0	1545	6
85205	08-Sep	Herschel Island north	69	35.5	138	47.4	1930	16
85206	08-Sep	Herschel Island north	69	37.3	138	44.8	2140	50
85207	09-Sep	Stokes Point north	69	27.8	138	47.8	1730	65
85208	09-Sep	Stokes Point north	69	25.2	138	45.8	2030	25
85209	09-Sep	Stokes Point north	69	22.8	138	43.4	2220	12
85210	09-Sep	Stokes Point north	69	20.3	138	42.1	15	5
85211	10-Sep	Herschel Island north	69	38.1	138	35.0	1500	130
85212	12-Sep	McKinley Bay north	69	59.5	131	10.2	1405	6
85213	12-Sep	Atkinson Point north	70	04.6	131	27.2	1635	15
85214	12-Sep	Hutchinson Bay north	69	59.2	132	00.9	1945	15
85215	12-Sep	Hutchinson Bay north	69	47.4	132	01.8	2300	6
85216	12-Sep	Tuft Point north	69	51.6	132	30.5	145	11
85217	12-Sep	Toker Point north	69	39.2	132	56.2	530	6

[1]Greenwich mean time.

Table 3. Summary parameters for stations sampled in the Beaufort Sea during 1986.

Station	Date	Station location	Latitude deg	Latitude min	Longitude deg	Longitude min	GMT[1]	Maximum Depth (m)
86001	23-Mar	Summer Island north	69	50.0	133	53.0	1945	14
86002	28-Mar	Whale Bluffs north-east	70	22.9	127	22.5	1730	19
86003	29-Mar	Thetis Bay south	69	31.9	138	55.3	1700	51
86004	30-Mar	McKinley Bay north	70	12.9	131	16.1	1500	21
86013	14-May	Atkinson Point north	69	55.7	131	31.0	1600	4
86014	14-May	Atkinson Point north	69	58.2	131	30.0	1650	11
86016	14-May	Atkinson Point north	70	13.0	131	30.0	1820	21
86031	17-May	Tibjack Point south	69	32.8	133	01.5	2010	5
86005	17-May	Summer Island north	69	47.0	133	55.6	1950	5
86006	17-May	Summer Island north	69	55.4	134	01.8	2100	13
86007	17-May	Summer Island north	70	00.3	134	02.6	2200	21
86008	17-May	Summer Island north	70	07.8	133	58.5	2210	37
86030	18-May	Toker Point north-east	69	40.4	132	43.2	1950	6
86020	18-May	Garry Island west	69	31.1	136	31.3	1700	9
86023	18-May	Garry Island west	69	30.6	137	44.4	1920	52
86026	20-May	Sabine Point north	69	07.0	137	42.5	2240	20
86027	20-May	Sabine Point north	69	03.7	137	46.7	130	8
86029	21-May	Whale Bluffs north-east	70	22.6	127	20.4	2245	37
86033	22-May	Summer Island north	69	53.4	133	57.6	1830	16
86035	22-Jul	Topkak Point west	69	31.8	133	13.5	1830	4
86035	23-Jul	Topkak Point west	69	30.7	133	14.5	1850	4
86036	23-Jul	Tibjack Point south	69	32.9	132	59.2	2240	5
86038	25-Jul	Kugmallit Bay west of Tuk	69	27.9	133	05.6	2005	4
86040	25-Jul	Kugmallit Bay west of Tuk	69	26.4	133	23.5	2335	3
86041	26-Jul	Toker Point west	69	40.7	133	07.2	1940	6
86042	26-Jul	Toker Point north	69	53.7	133	07.7	2315	16
86043	29-Jul	Garry Island west	69	34.1	136	09.5	1910	7
86044	30-Jul	Garry Island west	69	33.9	136	48.0	1610	16

[1]Greenwich mean time.

Table 3. (cont'd).

Station	Date	Station location	Latitude deg	Latitude min	Longitude deg	Longitude min	GMT[1]	Maximum Depth (m)
86045	30-Jul	Garry Island west .	69	32.6	137	07.1	2045	30
86046	31-Jul	Herschel Island north	69	35.0	138	50.6	2020	7
86047	31-Jul	Herschel Island north	69	35.7	138	48.1	2325	16
86048	01-Aug	Herschel Island north	69	41.4	138	39.9	1645	149
86049	01-Aug	Herschel Island north	69	37.3	138	46.1	2300	44
86051	03-Aug	King Point north	69	05.5	137	56.1	2115	6
86052	03-Aug	King Point north	69	06.6	137	55.2	220	16
86053	08-Aug	Toker Point west	69	37.8	133	11.2	1735	6
86056	10-Aug	Pullen Island north	69	48.5	134	24.6	2100	7
86057	10-Aug	Pullen Island north	69	57.9	134	10.0	125	16
86058	11-Aug	Pullen Island north	70	04.7	133	51.5	1615	32
86059	11-Aug	Pullen Island north-east	70	13.0	133	33.8	100	50
86060	12-Aug	Pullen Island north-east	70	42.8	135	21.3	1230	98
86061	12-Aug	Pullen Island north-east	70	45.6	135	23.6	1635	289
86065	16-Aug	Tuft Point north	69	45.2	132	31.3	2115	7
86066	17-Aug	Tuft Point north	69	58.0	132	30.5	2205	17
86067	18-Aug	Tuft Point north	70	10.8	132	29.7	1500	30
86068	18-Aug	Tuft Point north	70	43.5	132	29.0	2315	51
86069	19-Aug	Cape Dalhousie north	71	28.1	129	40.6	1315	112
86070	19-Aug	Cape Dalhousie north	71	20.8	129	41.1	1945	51
86071	20-Aug	Cape Dalhousie north	70	53.8	129	29.3	1955	32
86072	21-Aug	McKinley Bay north	70	12.3	131	01.8	2215	16
86073	28-Aug	Topkak Point west	69	32.5	133	07.7	2035	5
86074	28-Aug	Topkak Point west	69	30.1	133	12.0	2355	5
86075	29-Aug	Kugmallit Bay west of Tuk	69	27.9	133	23.6	2010	3
86076	30-Aug	Toker Point north	69	52.1	133	10.8	1820	15
86077	30-Aug	Tibjak Point west	69	35.1	133	11.8	2330	5
86078	04-Sep	McKinley Bay north	70	11.9	131	02.6	2310	16

[1]Greenwich mean time.

Table 3. (cont'd).

Station	Date	Station location	Latitude deg	Latitude min	Longitude deg	Longitude min	GMT[1]	Maximum Depth (m)
86079	05-Sep	McKinley Bay north	70	08.3	130	54.9	1630	7
86080	10-Sep	Garry Island west	69	34.2	136	09.8	215	7
86081	15-Sep	Herschel Island north	69	41.2	138	37.6	50	153
86082	16-Sep	Herschel Island north	69	37.7	138	44.8	1645	49
86083	16-Sep	Herschel Island north	69	36.7	138	48.4	2005	16
86084	16-Sep	Herschel Island north	69	35.1	138	50.8	2240	7
86085	17-Sep	King Point north	69	06.5	137	56.3	2215	7
86086	17-Sep	King Point north	69	07.1	137	55.2	2355	16
86087	17-Sep	King Point north	69	10.3	137	53.9	210	30
86088	18-Sep	King Point north	69	28.4	137	34.1	2010	50
86089	18-Sep	Garry Island west	69	32.7	137	06.5	15	29
86090	19-Sep	Garry Island west	69	33.7	136	47.8	1600	16
86091	19-Sep	Garry Island west	69	34.3	136	08.9	1915	7
86092	20-Sep	Pullen Island north	69	48.1	134	24.6	1515	7
86093	20-Sep	Pullen Island north	69	57.1	134	09.3	1850	15
86094	20-Sep	Pullen Island north-east	70	04.5	133	51.3	2140	32

[1]Greenwich mean time.

Table 4. Summary paramters for stations sampled in the Beaufort Sea during 1987.

Station	Date	Station location	Latitude deg	Latitude min	Longitude deg	Longitude min	GMT[1]	Maximum Depth (m)
87001	19-Mar	McKinley Bay north	70	12.9	131	17.3	1145	24
87002	20-Mar	Summer Island north	69	56.8	133	45.3	1000	16
87003	21-Mar	Whale Bluffs north-east	70	25.1	127	28.1	1020	8
87004	22-Mar	Kugmallit Bay	69	31.2	133	18.7	1230	4
87006	06-May	Kugmallit Bay	69	32.8	133	25.5	915	4
87007	07-May	Summer Island north	69	57.6	133	49.3	1000	17
87008	08-May	Whale Bluffs north-east	70	26.0	127	31.1	1100	13
87009	09-May	McKinley Bay north	70	14.3	131	07.4	1430	18
87010	12-May	McKinley Bay north	69	59.3	131	32.2	930	13
87011	13-May	Tibjack Point south	69	33.8	133	03.0	1515	6
87012	17-May	Atkinson Point north	69	55.8	131	32.4	1700	7
87013	19-May	Summer Island north	69	46.5	134	02.7	1000	5
87015	19-Jul	Herschel Island north	69	35.1	138	50.0	1130	7
87016	19-Jul	Hercshel Island north	69	36.0	138	49.5	1345	18
87017	20-Jul	Herschel Island north	69	38.0	138	45.9	1130	47
87018	20-Jul	Herschel Island north	69	43.0	138	44.4	1425	138
87020	22-Jul	King Point north	69	06.6	137	57.0	1500	7
87021	22-Jul	King Point north	69	06.8	137	56.5	1705	16
87022	22-Jul	King Point north	69	10.8	137	52.5	1940	30
87023	23-Jul	King Point north	69	27.2	137	33.7	1405	50
87024	23-Jul	Garry Island west	69	32.6	137	06.7	1805	32
87025	23-Jul	Garry Island west	69	34.0	136	47.5	2105	16
87026	24-Jul	Garry Island west	69	34.0	136	09.6	100	6
87014	26-Jul	Kugmallit Bay @ Tuk	69	30.7	133	06.5	1030	5
87027	26-Jul	Kittigazuit Bay north	69	24.2	133	38.0	1530	3
87028	28-Jul	Topkak Point west	69	31.1	133	08.0	1005	6
87029	28-Jul	Toker Point west	69	38.8	133	05.8	1435	7
87030	29-Jul	Kugmallit Bay @ Tuk	69	32.2	133	09.4	1030	5

[1]Greenwich mean time.

Table 4. (cont'd).

Station	Date	Station location	Latitude deg	Latitude min	Longitude deg	Longitude min	GMT[1]	Maximum Depth (m)
87031	29-Jul	Kugmallit Bay west of Tuk	69	27.1	133	14.3	1505	3
87033	01-Aug	Toker Point west	69	40.0	133	17.5	925	7
87032	01-Aug	Toker Point west	69	47.0	133	21.0	1500	9
87034	02-Aug	Toker point north-west	69	53.5	133	24.5	1230	16
87035	03-Aug	Pullen Island north-east	70	01.1	133	26.1	800	28
87036	04-Aug	Pullen Island north	70	57.7	134	29.5	800	200
87037	05-Aug	Pullen Island north-west	71	20.3	135	09.5	2400	1090
87038	05-Aug	Pullen Island north-east	70	31.1	133	56.6	1600	60
87050	05-Aug	Pullen Island north-east	70	06.0	133	43.3	1000	39
87039	06-Aug	Pullen Island north-east	70	15.6	133	37.1	800	50
87051	10-Aug	Pullen Island north-east	70	07.2	133	56.3	2030	36
87052	12-Aug	Pullen Island north-east	70	15.0	133	26.0	1635	50
87053	13-Aug	Pullen Island north-east	70	27.3	134	02.8	1150	60
87054	17-Aug	Pelly Island west	69	34.7	137	04.9	1025	29
87055	17-Aug	Garry Island west	69	28.7	137	43.6	1350	51
87056	17-Aug	King Point north	69	11.1	137	51.6	1900	31
87059	18-Aug	Kay Point east	69	17.1	138	11.8	1200	40
87060	21-Aug	Cape Dalhousie north	70	17.2	129	45.0	1530	7
87061	22-Aug	Cape Bathurst north	70	33.8	127	57.8	1050	8
87062	22-Aug	Cape Bathurst north	70	35.2	127	47.6	1450	31
87063	23-Aug	Cape Bathurst north	70	37.7	127	30.2	1025	197
87064	24-Aug	Cape Dalhousie north	70	26.2	129	50.2	1220	16
87066	25-Aug	McKinley Bay north	70	09.3	130	52.6	1405	9
87067	25-Aug	McKinley Bay north	70	12.3	131	01.8	1730	16
87065	26-Aug	McKinley Bay north	70	21.2	131	04.6	1325	26
87068	27-Aug	Tuft Point north	69	46.2	132	22.0	1120	7
87069	27-Aug	Tuft Point north	69	58.2	132	28.5	1515	17

[1]Greenwich mean time.

Table 5. Summary paramters for stations sampled in the Beaufort Sea during 1988.

Station	Date	Station location	Latitude deg	Latitude min	Longitude deg	Longitude min	GMT[1]	Maximum Depth (m)
88002	20-Mar	Kugmallit Bay	69	34.8	133	16.1	1600	4
88003	21-Mar	Summer Island north	69	56.8	133	45.3	1700	13
88004	22-Mar	McKinley Bay	70	10.2	131	12.7	1630	18
88005	23-Mar	Whale Bluffs north-east	70	25.3	127	28.1	1630	17

[1]Greenwich mean time.

Appendix 2: Data Tables

Footnotes to Appendix 2

* Samples were not taken due to sampling problems, samples lost or results of analyses are not available

** Samples were not taken for analysis

*** Results of analysis were below the detection level of the equipment

Table 1. Chemistry analysis results for the Beaufort Sea Shelf area - 1984

Station	Date	Depth m	PN $mmol \cdot m^{-3}$	PC $mmol \cdot m^{-3}$	CHL $mg \cdot m^{-3}$	TSS $mg \cdot L^{-1}$
84A01	14-Jul	1.0	3.29	66.94	1.70	20
84A01	14-Jul	7.0	5.14	92.59	1.00	21
84A02	15-Jul	1.0	2.14	49.29	0.70	18
84A02	15-Jul	12.0	0.79	39.47	0.30	20
84A02	15-Jul	19.0	3.64	65.78	5.40	25
84A03	15-Jul	1.0	0.57	21.06	0.10	15
84A03	15-Jul	10.0	0.36	20.32	0.10	14
84A03	15-Jul	29.0	6.29	50.96	7.00	18
84A05	16-Jul	1.0	1.57	30.56	1.70	13
84A05	16-Jul	10.0	2.29	36.72	1.70	16
84A06	23-Jul	1.0	0.79	12.49	0.30	5
84A07	23-Jul	1.0	0.79	16.57	0.30	7
84A07	23-Jul	16.0	2.36	46.46	0.60	13
84A08	23-Jul	1.0	1.21	18.40	0.40	6
84A08	23-Jul	34.0	0.29	13.99	***	10
84A10	24-Jul	1.0	0.93	12.99	0.50	5
84A10	24-Jul	8.0	1.64	21.56	1.10	7
84B09	24-Jul	1.0	0.79	13.16	0.50	5
84B09	24-Jul	13.0	***	12.99	***	11
84B01	07-Sep	1.0	1.50	15.24	0.90	*
84B01	07-Sep	10.0	1.29	13.57	0.60	*
84B02	07-Sep	1.0	3.14	22.73	0.70	*
84B02	07-Sep	18.0	1.29	16.49	0.20	*
84B03	08-Sep	1.0	1.57	17.15	0.50	*
84B03	08-Sep	29.0	1.93	17.82	0.30	*
84B04	08-Sep	1.0	1.79	20.82	0.40	*
84B04	08-Sep	29.0	5.79	73.02	0.10	*
84B05	09-Sep	1.0	3.00	25.89	0.70	*
84B05	09-Sep	10.0	2.00	20.57	0.30	*
84B11	09-Sep	1.0	1.64	15.65	0.40	*
84B11	09-Sep	20.0	1.64	20.40	0.20	*

* ; ** ; *** see footnotes on page 32.

Table 2. Chemistry analysis results for the Beaufort Sea Shelf area - 1985

Station	Date	Depth m	TDN $mmol \cdot m^{-3}$	PN $mmol \cdot m^{-3}$	PP $mmol \cdot m^{-3}$	PC $mmol \cdot m^{-3}$	CHL $mg \cdot m^{-3}$	TSS $mg \cdot L^{-1}$
85102	21-Jul	3.5	21.43	13.29	0.71	249.78	1.40	100
85103	21-Jul	0.0	11.43	3.79	0.90	52.45	1.80	29
85103	21-Jul	5.0	14.29	4.43	0.77	58.28	2.00	35
85104	22-Jul	0.0	16.43	6.86	0.81	101.58	2.40	48
85104	22-Jul	5.0	18.57	7.57	1.61	124.06	2.40	59
85105	22-Jul	0.0	22.86	9.71	*	206.48	1.30	93
85110	25-Jul	0.0	**	4.64	**	53.29	2.10	15
85111	25-Jul	0.0	**	2.50	**	20.82	1.20	3
85112	25-Jul	0.0	**	5.71	**	60.78	3.10	16
85113	25-Jul	0.0	**	8.71	**	86.84	7.90	28
85114	26-Jul	0.0	**	11.57	**	175.68	1.00	71
85115	26-Jul	0.0	**	19.57	**	289.74	0.60	128
85116	26-Jul	0.0	**	12.64	**	199.82	2.70	78
85117	26-Jul	0.0	**	10.43	**	174.01	0.60	72
85100	03-Aug	0.0	32.86	6.21	0.84	86.59	6.20	43
85118	03-Aug	0.0	15.00	2.57	0.52	33.30	1.10	16
85119	03-Aug	0.0	30.00	3.57	0.61	45.79	1.40	20
85120	05-Aug	0.0	**	*	**	*	3.00	*
85120	05-Aug	20.0	**	0.36	**	9.16	0.10	*
85121	05-Aug	0.0	**	**	**	**	2.30	**
85121	05-Aug	5.0	**	**	**	**	0.20	**
85121	05-Aug	10.0	**	**	**	**	0.10	**
85121	05-Aug	15.0	**	**	**	**	0.10	**
85122	05-Aug	0.0	**	*	**	*	3.00	*
85122	05-Aug	15.0	**	0.93	**	20.82	0.20	19
85123	06-Aug	0.0	**	*	**	*	1.00	*
85124	06-Aug	0.0	**	3.93	**	47.46	1.10	19
85218	07-Aug	0.0	**	9.64	**	189.83	0.70	**
85219	07-Aug	0.0	**	5.50	**	83.26	1.90	**
85220	07-Aug	0.0	**	0.93	**	14.99	0.10	**
85221	07-Aug	0.0	**	1.57	**	24.98	0.30	**
85125	09-Aug	0.0	**	4.71	**	69.11	1.50	22
85126	09-Aug	0.0	**	2.36	**	24.98	1.20	7
85126	09-Aug	6.0	**	1.29	**	23.31	0.30	20
85127	09-Aug	0.0	**	3.29	**	42.46	1.60	17
85128	09-Aug	0.0	**	4.14	**	66.61	1.70	21
85128	09-Aug	6.0	**	*	**	*	1.00	*
85129	10-Aug	0.0	**	7.36	**	149.87	1.20	61
85130	10-Aug	0.0	**	3.36	**	43.30	1.60	16
85130	10-Aug	6.0	**	1.86	**	34.97	0.50	26
85131	10-Aug	0.0	**	3.07	**	45.79	1.10	18
85131	10-Aug	5.0	**	*	**	0.00	0.20	*
85131	10-Aug	9.0	**	1.50	**	34.14	0.10	25

* ; ** ; *** see footnotes on page 32.

Table 2. Cont'd.

Station	Date	Depth m	TDN mmol·m^{-3}	PN mmol·m^{-3}	PP mmol·m^{-3}	PC mmol·m^{-3}	CHL mg·m^{-3}	TSS mg·L^{-1}
85132	10-Aug	0.0	**	4.29	**	46.63	3.80	13
85133	11-Aug	0.0	**	3.29	**	35.80	2.80	12
85133	11-Aug	10.0	**	1.86	**	23.31	0.10	21
85134	11-Aug	0.0	**	3.00	**	25.56	1.40	7
85134	11-Aug	5.0	**	1.21	**	19.15	0.30	13
85134	11-Aug	15.0	**	0.79	**	14.99	0.10	18
85135	11-Aug	0.0	**	3.21	**	37.47	2.30	9
85136	12-Aug	0.0	**	2.50	**	26.64	3.50	4
85136	12-Aug	6.0	**	2.71	**	25.81	3.30	6
85137	12-Aug	0.0	**	3.29	**	39.13	3.50	5
85137	12-Aug	5.0	**	2.14	**	21.65	0.70	5
85137	12-Aug	15.0	**	2.14	**	32.47	0.30	24
85138	12-Aug	0.0	**	3.36	**	34.14	2.20	4
85138	12-Aug	5.0	**	3.00	**	29.97	1.90	5
85138	12-Aug	15.0	**	1.29	**	29.97	0.20	39
85102	02-Sep	0.0	30.00	4.21	**	40.80	2.60	**
85200	07-Sep	1.0	**	**	**	**	0.29	**
85202	07-Sep	1.0	**	**	**	**	0.22	**
85202	07-Sep	15.0	**	**	**	**	0.20	**
85203	07-Sep	5.0	**	**	**	**	0.91	**
85203	07-Sep	20.0	**	**	**	**	0.13	**
85204	08-Sep	5.0	**	**	**	**	0.11	**
85205	08-Sep	5.0	**	**	**	*	0.96	**
85206	08-Sep	5.0	**	**	**	**	0.13	**
85207	09-Sep	5.0	**	**	**	**	0.79	**
85208	09-Sep	5.0	**	**	**	**	0.60	**
85209	09-Sep	5.0	**	**	**	**	0.64	**
85210	09-Sep	5.0	**	**	**	**	0.34	**
85211	10-Sep	5.0	**	**	**	**	0.06	**
85212	12-Sep	*	**	**	**	**	0.28	**
85212	12-Sep	1.0	**	*	**	*	**	15
85213	12-Sep	*	**	**	**	**	0.43	**
85213	12-Sep	1.0	**	*	**	*	**	13
85214	12-Sep	*	**	**	**	**	0.49	**
85214	12-Sep	1.0	**	*	**	*	**	11
85215	12-Sep	*	**	**	**	**	0.15	**
85215	12-Sep	1.0	**	*	**	*	**	11
85216	12-Sep	1.0	**	*	**	*	**	14
85217	12-Sep	1.0	**	*	**	*	**	19

* ; ** ; *** see footnotes on page 32.

Table 3a. Chemistry analysis results for the Beaufort Sea Shelf area - 1986

Station	Date	Depth m	NO3-N $mmol \cdot m^{-3}$	NO2-N $mmol \cdot m^{-3}$	TDN $mmol \cdot m^{-3}$	PN $mmol \cdot m^{-3}$	PO4 $mmol \cdot m^{-3}$	TDP $mmol \cdot m^{-3}$	PP $mmol \cdot m^{-3}$	DIC $mol \cdot m^{-3}$	DOC $mol \cdot m^{-3}$	PC $mmol \cdot m^{-3}$	SI $mmol \cdot m^{-3}$
86001	23-Mar	2.0	**	**	20.71	1.36	**	0.65	0.10	2.46	0.21	94.08	62.3
86001	23-Mar	5.0	**	**	12.14	0.86	**	0.48	0.06	1.60	0.17	74.10	60.2
86001	23-Mar	7.0	**	**	23.57	1.36	**	1.61	0.06	1.55	0.09	16.65	23.2
86001	23-Mar	13.0	**	**	27.86	1.50	**	1.81	0.19	1.98	0.11	23.31	21.9
86001	26-Mar	13.0	**	**	20.71	1.86	**	1.55	0.16	1.47	0.08	24.15	22.1
86002	28-Mar	2.0	**	**	21.43	1.14	**	1.52	0.13	1.94	0.08	18.32	5.8
86002	28-Mar	5.0	**	**	20.71	2.50	**	1.52	***	1.67	0.07	20.82	6.2
86002	28-Mar	10.0	**	**	25.00	3.14	**	1.58	0.26	2.35	0.11	33.30	7.7
86002	28-Mar	18.5	**	**	25.00	2.00	**	1.87	0.10	2.31	0.07	21.65	10.0
86003	29-Mar	2.0	**	**	27.14	1.64	**	1.29	0.10	3.10	0.17	20.82	50.2
86003	29-Mar	5.0	**	**	21.43	1.07	**	1.61	0.06	1.92	0.07	12.49	20.9
86003	29-Mar	10.0	**	**	11.43	1.21	**	0.87	***	1.43	0.07	14.15	48.8
86003	29-Mar	20.0	**	**	30.00	1.14	**	2.20	0.10	2.29	0.06	13.32	24.7
86003	29-Mar	49.0	**	**	19.29	1.36	**	1.55	0.13	1.23	0.04	18.32	27.1
86004	30-Mar	2.0	**	**	22.14	2.14	**	1.32	0.13	1.93	0.07	21.65	26.3
86004	30-Mar	5.0	**	**	20.71	1.21	**	1.32	0.06	1.81	0.09	16.65	25.9
86004	30-Mar	10.0	**	**	24.29	2.07	**	1.91	0.13	1.88	0.08	27.48	25.2
86004	30-Mar	20.0	**	**	25.00	1.36	**	1.94	0.06	2.02	0.08	16.65	25.7
86013	14-May	2.5	**	**	20.71	0.50	**	0.68	0.06	2.57	0.31	11.66	68.4
86014	14-May	2.5	**	**	20.00	0.86	**	0.61	0.06	2.59	0.31	14.15	66.6
86014	14-May	8.5	**	**	30.71	0.43	**	2.16	0.06	2.51	0.09	7.49	25.5
86016	14-May	2.5	**	**	26.43	1.86	**	1.68	0.06	2.51	0.10	23.31	22.2
86016	14-May	6.5	**	**	25.71	1.29	**	2.16	***	2.38	0.07	9.16	17.2
86016	14-May	14.5	**	**	26.43	0.50	**	2.20	0.06	2.44	0.06	9.16	17.2
86016	14-May	19.5	**	**	26.43	2.50	**	2.29	0.13	2.48	0.08	16.65	21.8
86005	17-May	2.5	**	**	24.29	2.00	**	0.68	0.16	2.76	0.54	55.78	76.5
86006	17-May	3.0	**	**	22.86	1.93	**	0.74	0.13	2.96	0.25	24.15	47.3
86006	17-May	6.5	**	**	26.43	1.57	**	2.00	0.06	2.50	0.11	13.32	22.4
86006	17-May	11.0	**	**	28.57	0.50	**	2.23	0.23	2.44	0.10	8.33	19.5
86008	17-May	3.0	**	**	20.00	2.64	**	1.65	0.26	2.32	0.09	25.81	13.1
86008	17-May	10.0	**	**	21.43	2.71	**	1.84	0.06	2.39	0.09	27.48	8.7
86008	17-May	30.0	**	**	27.14	2.00	**	2.32	0.23	2.42	0.08	16.65	19.3
86031	17-May	3.0	**	**	19.29	0.79	**	0.48	0.13	1.66	0.40	17.48	65.9
86020	18-May	3.0	**	**	21.43	6.57	**	0.71	1.26	1.81	0.10	83.26	71.6
86023	18-May	2.0	**	**	19.29	3.36	**	0.84	0.26	2.89	0.15	29.14	43.1
86023	18-May	6.5	**	**	22.14	1.21	**	1.97	0.06	2.53	0.09	11.66	16.9
86023	18-May	14.5	**	**	35.00	0.00	**	2.07	0.00	2.38	0.13	0.00	15.0
86023	18-May	50.0	**	**	38.57	0.29	**	2.49	0.03	2.46	0.07	7.49	24.6
86030	18-May	4.0	**	**	19.29	0.86	**	0.52	0.13	2.01	0.29	16.90	66.2
86026	20-May	2.5	**	**	20.00	0.36	**	0.52	0.10	2.40	0.37	11.66	69.4

* ; ** ; *** see footnotes on page 32.

Table 3a. cont'd.

STATION	DATE	DEPTH m	NO3-N mmol·m^{-3}	NO2-N mmol·m^{-3}	TDN mmol·m^{-3}	PN mmol·m^{-3}	PO4 mmol·m^{-3}	TDP mmol·m^{-3}	PP mmol·m^{-3}	DIC mol·m^{-3}	DOC mol·m^{-3}	PC mmol·m^{-3}	SI mmol·m^{-3}
86026	20-May	10.0	**	**	31.43	0.21	**	2.10	***	2.40	0.09	5.83	21.1
86026	20-May	19.0	**	**	31.43	0.93	**	2.03	0.10	2.43	0.08	11.66	21.3
86027	20-May	2.5	**	**	18.57	0.57	**	0.48	0.06	2.74	0.34	12.49	73.3
86027	20-May	6.5	**	**	28.57	0.14	**	1.97	***	2.54	0.11	7.49	23.7
86029	21-May	1.5	**	**	31.43	1.29	**	1.97	0.10	2.36	0.07	14.99	6.8
86029	21-May	5.0	**	**	26.43	1.36	**	1.87	0.10	2.21	0.08	15.82	6.8
86029	21-May	10.0	**	**	25.00	1.14	**	1.87	0.13	2.35	0.08	12.49	6.8
86029	21-May	35.0	**	**	34.29	0.50	**	2.52	0.45	2.44	0.08	11.66	19.5
86033	22-May	1.5	**	**	20.71	1.50	**	0.81	0.13	2.72	0.19	22.23	64.4
86033	22-May	5.0	**	**	22.14	2.93	**	1.49	0.26	2.59	0.09	33.55	19.2
86033	22-May	10.0	**	**	28.57	1.86	**	2.20	0.06	2.59	0.06	11.07	19.0
86033	22-May	15.0	**	**	27.14	0.64	**	2.20	0.10	2.52	0.05	10.57	19.3
86035	22-Jul	1.0	**	**	22.14	26.36	**	0.61	5.23	1.51	0.47	338.87	**
86035	22-Jul	3.5	**	**	30.71	4.57	**	1.10	0.94	2.01	0.03	72.44	**
86035	23-Jul	1.0	**	**	25.71	8.43	**	0.87	1.39	1.82	0.08	104.91	**
86035	23-Jul	3.5	**	**	27.86	10.29	**	1.42	4.10	2.09	0.03	188.17	**
86036	23-Jul	1.0	**	**	28.57	2.79	**	1.49	0.36	2.12	0.02	34.14	**
86036	23-Jul	3.5	**	**	29.29	2.79	**	1.58	0.48	2.09	0.01	35.80	**
86038	25-Jul	1.0	**	**	15.00	17.71	**	0.77	3.46	1.45	0.46	260.60	**
86038	25-Jul	2.5	**	**	27.14	2.64	**	1.36	0.52	2.11	0.03	39.96	**
86040	25-Jul	1.0	**	**	22.14	10.14	**	0.74	3.36	1.45	0.49	166.52	**
86040	25-Jul	2.0	**	**	20.71	17.93	**	0.71	3.65	1.36	0.46	305.56	**
86041	26-Jul	1.0	**	**	28.57	5.93	**	1.84	0.26	2.77	0.04	89.09	**
86041	26-Jul	5.0	**	**	30.00	1.93	**	1.97	0.29	2.87	0.06	27.48	**
86042	26-Jul	1.0	**	**	22.14	4.93	**	1.39	0.36	2.62	0.04	71.60	**
86042	26-Jul	5.0	**	**	22.86	14.64	**	1.45	0.71	2.75	0.04	93.25	**
86042	26-Jul	10.0	**	**	30.71	6.71	**	2.16	0.16	2.85	0.04	90.75	**
86042	26-Jul	15.0	**	**	30.00	1.07	**	2.20	0.45	2.79	0.04	24.98	**
86043	29-Jul	1.0	0.07	***	28.57	3.36	0.65	1.10	0.45	2.04	0.18	42.46	**
86043	29-Jul	5.0	0.43	0.14	27.86	3.64	1.03	2.29	0.42	2.00	0.13	27.48	**
86044	30-Jul	1.0	***	***	33.57	2.43	0.42	0.84	0.29	2.26	0.11	26.64	**
86044	30-Jul	5.0	0.14	***	34.29	2.21	0.71	1.36	0.58	2.71	0.07	21.65	**
86044	30-Jul	10.0	3.71	0.57	39.29	0.64	1.45	2.03	0.10	2.82	0.04	14.99	**
86044	30-Jul	15.0	3.36	0.71	42.86	2.29	1.52	2.07	0.19	2.88	0.05	23.31	**
86045	30-Jul	1.0	0.07	***	22.14	2.29	0.19	0.81	0.26	2.17	0.11	23.31	**
86045	30-Jul	5.0	0.21	0.14	44.29	1.14	0.77	1.97	0.19	2.67	0.08	17.48	**
86045	30-Jul	10.0	0.93	0.36	44.29	0.71	1.00	2.00	0.10	2.84	0.06	14.15	**
86045	30-Jul	20.0	6.57	0.43	41.43	0.43	1.78	2.26	0.06	2.85	0.06	14.15	**
86045	30-Jul	29.0	4.93	0.21	45.00	0.71	1.26	2.49	0.13	2.83	0.05	19.98	**
86046	31-Jul	1.0	0.21	0.43	43.57	3.64	0.77	1.55	0.65	2.56	0.09	41.63	**

* ; ** ; *** see footnotes on page 32.

Table 3a. cont'd.

STATION	DATE	DEPTH m	NO3-N $mmol \cdot m^{-3}$	NO2-N $mmol \cdot m^{-3}$	TDN $mmol \cdot m^{-3}$	PN $mmol \cdot m^{-3}$	PO4 $mmol \cdot m^{-3}$	TDP $mmol \cdot m^{-3}$	PP $mmol \cdot m^{-3}$	DIC $mol \cdot m^{-3}$	DOC $mol \cdot m^{-3}$	PC $mmol \cdot m^{-3}$	SI $mmol \cdot m^{-3}$
86046	31-Jul	5.0	5.93	0.21	38.57	1.93	1.03	2.10	0.42	2.71	0.07	27.48	**
86047	31-Jul	1.0	0.14	***	20.71	3.50	0.26	0.84	0.32	2.14	0.13	37.47	**
86047	31-Jul	5.0	0.14	0.07	34.29	3.36	*	1.78	0.29	2.71	0.07	26.64	**
86047	31-Jul	10.0	3.14	0.21	31.43	2.50	1.49	1.97	0.29	2.73	0.04	22.48	**
86047	31-Jul	14.0	***	0.14	28.57	2.64	1.26	1.97	0.29	2.80	0.06	25.81	**
86048	01-Aug	1.0	0.14	***	25.71	2.50	0.23	0.61	0.19	1.86	0.14	33.30	**
86048	01-Aug	5.0	0.07	0.07	22.14	3.64	0.29	0.74	0.32	2.12	0.12	36.63	**
86048	01-Aug	10.0	0.07	0.07	33.57	0.71	1.13	1.74	0.10	2.81	0.07	8.33	**
86048	01-Aug	20.0	0.07	0.07	31.43	0.29	1.13	2.00	0.06	2.71	0.05	5.83	**
86048	01-Aug	30.0	2.43	0.21	32.14	0.36	1.29	2.13	0.03	2.87	0.06	5.83	**
86048	01-Aug	50.0	8.57	0.21	37.14	0.36	2.03	2.39	0.06	3.98	0.04	5.83	**
86048	01-Aug	100.0	10.86	0.21	35.72	0.36	2.42	2.71	0.03	4.03	0.03	5.83	**
86048	01-Aug	145.0	11.93	0.21	39.29	0.79	2.26	2.78	0.10	4.32	0.03	12.49	**
86049	01-Aug	1.0	0.14	***	12.14	3.79	0.19	0.61	0.26	2.28	0.14	37.47	**
86049	01-Aug	5.0	0.07	0.07	18.57	2.29	0.58	1.10	0.42	3.31	0.08	19.15	**
86049	01-Aug	10.0	0.86	0.29	25.71	0.57	1.26	1.78	0.06	4.31	0.05	6.66	**
86049	01-Aug	20.0	4.71	0.29	27.14	0.43	1.81	2.16	0.03	3.96	0.05	5.83	**
86049	01-Aug	30.0	9.50	0.29	34.29	0.36	2.10	2.49	0.06	4.12	0.03	5.00	**
86049	01-Aug	40.0	10.50	0.29	35.00	0.36	2.20	2.55	0.06	4.36	0.05	5.00	**
86051	03-Aug	1.0	**	**	15.71	3.21	**	0.81	0.29	3.01	0.10	47.46	**
86051	03-Aug	5.0	**	**	29.29	3.14	**	0.84	0.32	3.32	0.10	54.95	**
86052	03-Aug	1.0	**	**	27.14	2.93	**	0.77	0.36	3.22	0.13	52.45	**
86052	03-Aug	5.0	**	**	25.71	5.36	**	1.10	0.48	3.47	0.09	65.78	**
86052	03-Aug	10.0	**	**	34.29	1.29	**	2.07	0.13	4.34	0.06	12.49	**
86052	03-Aug	14.5	**	**	35.72	1.07	**	2.10	0.16	4.53	0.06	17.48	**
86053	08-Aug	1.0	**	**	22.86	3.50	**	1.00	0.26	3.57	0.10	35.80	**
86053	08-Aug	5.0	**	**	23.57	11.36	**	1.10	1.91	3.77	0.09	169.85	**
86056	10-Aug	1.0	0.07	0.07	22.14	4.43	0.52	1.26	0.94	2.07	0.14	64.11	14.4
86056	10-Aug	5.0	***	0.14	24.29	10.14	1.07	1.61	2.13	2.07	0.12	167.35	5.9
86057	10-Aug	1.0	***	0.07	20.00	1.57	0.55	1.13	0.16	1.98	0.14	20.82	11.7
86057	10-Aug	5.0	***	0.07	21.43	1.36	0.45	1.32	0.10	2.15	0.15	16.65	5.8
86057	10-Aug	10.0	***	0.14	22.14	2.07	1.32	1.71	0.39	2.15	0.08	24.15	5.7
86057	10-Aug	14.0	***	0.14	22.86	3.29	1.03	1.74	0.74	2.15	0.12	36.63	5.8
86058	11-Aug	1.0	***	0.07	20.00	1.64	0.77	1.23	0.13	2.08	0.12	18.32	8.3
86058	11-Aug	5.0	***	0.14	21.43	1.57	0.61	1.23	0.16	1.98	0.11	17.48	8.3
86058	11-Aug	10.0	***	0.14	21.43	1.14	1.00	1.58	0.06	2.08	0.11	10.82	4.1
86058	11-Aug	20.0	***	0.14	22.14	1.00	1.00	1.87	0.10	2.21	0.12	10.82	4.7
86058	11-Aug	30.0	***	0.14	25.00	1.79	1.03	2.13	0.16	2.26	0.09	14.15	13.5
86059	11-Aug	1.0	***	0.14	20.71	1.29	0.26	1.16	0.13	1.95	0.12	14.99	7.5
86059	11-Aug	5.0	***	0.14	21.43	1.43	0.45	1.19	0.10	2.66	1.71	17.48	7.1

* ; ** ; *** see footnotes on page 32.

Table 3a. cont'd.

STATION	DATE	DEPTH m	NO3-N mmol·m^{-3}	NO2-N mmol·m^{-3}	TDN mmol·m^{-3}	PN mmol·m^{-3}	PO4 mmol·m^{-3}	TDP mmol·m^{-3}	PP mmol·m^{-3}	DIC mol·m^{-3}	DOC mol·m^{-3}	PC mmol·m^{-3}	SI mmol·m^{-3}
86059	11-Aug	10.0	***	0.29	22.86	0.79	1.23	1.68	0.10	2.17	0.09	10.82	2.6
86059	11-Aug	20.0	***	0.14	21.43	0.79	1.00	1.74	0.06	2.06	0.10	9.99	2.9
86059	11-Aug	30.0	0.50	0.29	23.57	0.50	1.13	1.87	0.03	2.18	0.09	6.66	4.7
86059	11-Aug	48.0	4.86	0.43	30.00	1.21	1.45	2.29	0.16	2.33	0.09	14.15	18.7
86060	12-Aug	1.0	**	**	27.86	1.50	**	0.81	0.10	2.89	0.04	13.32	**
86060	12-Aug	5.0	**	**	27.86	3.57	**	1.32	0.06	3.87	0.01	30.81	**
86060	12-Aug	10.0	**	**	27.86	0.43	**	1.65	0.06	4.66	***	5.00	**
86060	12-Aug	20.0	**	**	30.71	0.29	**	1.91	***	4.88	***	6.66	**
86060	12-Aug	30.0	**	**	26.43	0.29	**	1.81	***	4.94	***	4.16	**
86060	12-Aug	50.0	**	**	37.14	0.29	**	2.32	***	5.19	***	4.16	**
86060	12-Aug	95.0	**	**	38.57	0.36	**	2.58	0.03	5.58	***	5.00	**
86061	12-Aug	285.0	**	**	39.29	0.21	**	1.91	***	6.00	***	5.00	**
86065	16-Aug	1.0	**	**	35.00	5.14	**	1.58	0.61	1.42	0.15	61.61	**
86065	16-Aug	5.0	**	**	22.14	11.86	**	1.84	2.10	2.33	0.15	125.72	**
86066	17-Aug	1.0	**	**	27.14	1.29	**	1.45	0.13	5.66	***	18.32	**
86066	17-Aug	5.0	**	**	26.43	1.71	**	1.39	0.16	5.63	***	21.65	**
86066	17-Aug	10.0	**	**	27.14	0.79	**	1.71	0.10	5.69	0.02	12.49	**
86066	17-Aug	15.0	**	**	25.00	6.07	**	1.74	0.58	6.14	0.02	74.93	**
86067	18-Aug	1.0	**	**	25.00	1.14	**	1.49	0.10	5.37	0.02	13.32	**
86067	18-Aug	10.0	**	**	35.72	1.14	**	1.74	0.10	5.20	0.03	14.15	**
86067	18-Aug	20.0	**	**	27.86	6.29	**	1.94	0.45	6.29	0.04	57.45	**
86067	18-Aug	29.0	**	**	31.43	6.79	**	2.16	0.55	6.19	0.02	59.11	**
86068	18-Aug	1.0	**	**	25.71	1.07	**	1.45	0.10	4.67	0.02	12.49	**
86068	18-Aug	10.0	**	**	23.57	1.00	**	1.45	0.10	5.19	0.01	9.99	**
86068	18-Aug	20.0	**	**	27.86	0.57	**	1.87	0.06	5.60	0.01	6.66	**
86068	18-Aug	30.0	**	**	23.57	0.64	**	1.84	0.06	5.54	***	7.49	**
86068	18-Aug	49.5	**	**	30.00	1.14	**	2.36	0.36	6.32	0.02	12.49	**
86069	19-Aug	1.0	**	**	20.71	0.86	**	1.49	0.10	4.86	0.02	10.82	**
86069	19-Aug	10.0	**	**	24.29	0.64	**	1.61	0.06	4.76	0.04	10.82	**
86069	19-Aug	20.0	**	**	25.00	0.57	**	1.78	0.06	5.71	0.02	8.33	**
86069	19-Aug	30.0	**	**	26.43	0.79	**	1.91	0.06	5.65	0.04	8.33	**
86069	19-Aug	50.0	**	**	37.86	1.00	**	2.29	0.10	5.71	0.04	9.16	**
86069	19-Aug	100.0	**	**	39.29	0.43	**	2.55	0.06	4.30	0.03	7.49	**
86070	19-Aug	1.0	**	**	32.14	2.57	**	1.45	0.06	3.70	0.02	19.15	**
86070	19-Aug	10.0	**	**	29.29	0.86	**	1.65	0.06	3.83	0.02	9.99	**
86070	19-Aug	20.0	**	**	29.29	0.64	**	1.78	0.06	3.88	***	9.99	**
86070	19-Aug	30.0	**	**	34.29	1.29	**	1.87	0.06	4.31	***	11.66	**
86070	19-Aug	45.0	**	**	39.29	1.07	**	2.42	0.13	4.51	***	9.16	**
86071	20-Aug	1.0	0.14	0.14	25.00	0.86	0.97	1.71	0.10	3.59	***	14.15	**
86071	20-Aug	5.0	***	0.21	26.43	0.86	1.03	1.65	0.10	3.79	0.01	10.82	**

* ; ** ; *** see footnotes on page 32.

Table 3a. cont'd.

STATION	DATE	DEPTH m	NO3-N $mmol \cdot m^{-3}$	NO2-N $mmol \cdot m^{-3}$	TDN $mmol \cdot m^{-3}$	PN $mmol \cdot m^{-3}$	PO4 $mmol \cdot m^{-3}$	TDP $mmol \cdot m^{-3}$	PP $mmol \cdot m^{-3}$	DIC $mol \cdot m^{-3}$	DOC $mol \cdot m^{-3}$	PC $mmol \cdot m^{-3}$	SI $mmol \cdot m^{-3}$
86071	20-Aug	10.0	***	0.21	26.43	0.93	0.94	1.78	0.10	4.14	***	13.32	**
86071	20-Aug	20.0	***	0.29	28.57	1.57	1.42	2.20	0.19	4.19	***	14.99	**
86071	20-Aug	29.0	***	0.29	25.71	1.64	1.58	2.03	0.26	4.47	0.01	16.65	**
86072	21-Aug	1.0	***	0.14	27.14	1.79	1.00	1.87	0.23	4.58	0.02	19.15	**
86072	21-Aug	5.0	***	0.14	29.29	2.64	0.87	1.81	0.39	4.40	0.02	29.97	**
86072	21-Aug	10.0	***	0.14	28.57	6.50	0.58	1.74	1.10	4.68	0.03	108.24	**
86072	21-Aug	15.0	***	0.14	30.71	6.14	0.90	1.78	1.10	4.63	0.02	101.58	**
86034	27-Aug	1.0	**	**	17.86	7.86	0.16	0.61	1.84	1.76	0.36	119.89	51.6
86034	27-Aug	4.0	**	**	27.86	5.14	0.19	0.74	1.07	1.81	0.10	78.26	40.6
86073	28-Aug	1.0	1.50	0.07	16.43	4.57	0.26	0.87	*	3.67	0.12	67.44	32.6
86073	28-Aug	4.0	1.29	0.07	17.14	11.71	0.32	0.87	2.71	3.89	0.07	201.49	27.3
86074	28-Aug	1.0	3.29	0.07	13.57	11.50	0.10	0.68	1.68	3.53	0.21	178.18	45.6
86074	28-Aug	3.5	1.00	0.14	19.29	8.07	0.26	0.94	2.42	3.78	0.10	124.06	26.5
86075	29-Aug	1.0	4.14	***	17.14	*	0.03	0.61	*	2.00	0.52	*	55.9
86076	30-Aug	1.0	0.07	0.14	22.14	1.64	0.45	1.19	0.26	3.84	0.04	19.98	9.9
86076	30-Aug	5.0	0.14	0.14	32.14	1.71	0.55	1.19	0.23	3.84	0.09	18.32	10.0
86076	30-Aug	10.0	0.14	0.21	32.14	1.86	0.74	1.68	0.32	4.22	0.05	23.31	5.8
86076	30-Aug	13.0	0.14	0.21	30.71	2.14	0.87	1.68	0.36	4.55	0.02	27.48	5.7
86077	30-Aug	1.0	0.14	0.14	27.86	5.21	0.45	1.16	*	3.86	0.05	84.09	11.8
86077	30-Aug	4.0	0.14	0.14	25.00	5.64	0.45	1.16	1.32	3.70	0.05	89.92	11.8
86078	04-Sep	1.0	0.07	0.14	22.86	1.57	0.45	1.36	0.13	4.34	0.07	24.15	7.9
86078	04-Sep	5.0	0.07	0.21	23.57	1.50	0.55	1.45	0.16	4.28	0.05	16.65	7.0
86078	04-Sep	10.0	0.14	0.21	22.14	3.07	0.61	1.61	0.65	4.25	0.05	46.63	5.6
86078	04-Sep	14.5	***	0.29	25.00	5.07	0.65	1.65	1.13	4.63	0.03	80.76	5.3
86079	05-Sep	1.0	***	0.29	23.57	1.29	0.58	1.36	0.16	4.34	0.06	15.82	6.6
86079	05-Sep	5.0	***	0.29	22.86	1.71	0.65	1.49	0.29	4.24	0.03	23.31	5.5
86080	10-Sep	1.0	2.43	0.29	20.00	5.71	0.03	0.74	1.19	3.46	0.25	102.41	55.9
86080	10-Sep	5.0	1.29	0.29	17.14	2.79	0.06	0.61	0.36	3.74	0.14	40.80	35.4
86081	15-Sep	1.0	***	***	25.00	1.43	0.55	1.32	0.13	3.90	0.02	18.32	8.5
86081	15-Sep	5.0	0.14	0.14	25.00	1.21	0.61	1.49	0.13	4.12	0.03	14.99	7.1
86081	15-Sep	10.0	0.29	0.21	32.14	0.93	0.52	1.58	0.10	4.30	***	9.99	7.1
86081	15-Sep	20.0	0.57	0.21	32.14	0.93	0.71	1.94	0.10	4.50	0.03	7.49	6.6
86081	15-Sep	30.0	1.00	0.21	52.14	0.50	0.81	2.10	0.03	4.21	0.01	6.66	7.3
86081	15-Sep	50.0	5.43	0.29	33.57	1.29	1.16	2.26	0.06	4.75	0.01	9.99	15.7
86081	15-Sep	150.0	8.00	0.21	36.43	2.43	0.71	2.49	0.06	2.56	***	15.82	25.8
86082	16-Sep	1.0	0.29	0.14	24.29	1.21	0.74	1.32	0.06	2.27	0.01	9.99	9.0
86082	16-Sep	5.0	***	0.07	24.29	1.29	0.71	1.36	0.10	2.23	***	10.82	9.0
86082	16-Sep	10.0	***	0.14	23.57	1.14	0.81	1.58	0.06	2.48	***	6.66	5.9
86082	16-Sep	20.0	1.71	0.21	27.86	1.86	1.00	1.97	0.10	2.50	***	14.99	8.5
86082	16-Sep	30.0	3.21	0.29	28.57	1.36	0.65	2.03	0.10	2.46	***	10.82	11.0

* ; ** ; *** see footnotes on page 32.

Table 3a. cont'd.

STATION	DATE	DEPTH m	NO3-N mmol·m^{-3}	NO2-N mmol·m^{-3}	TDN mmol·m^{-3}	PN mmol·m^{-3}	PO4 mmol·m^{-3}	TDP mmol·m^{-3}	PP mmol·m^{-3}	DIC mol·m^{-3}	DOC mol·m^{-3}	PC mmol·m^{-3}	SI mmol·m^{-3}
86082	16-Sep	46.0	3.64	0.14	46.43	1.36	1.10	2.36	0.10	2.62	0.01	9.16	16.6
86083	16-Sep	1.0	0.07	0.14	35.72	2.00	0.45	1.58	0.13	2.45	0.01	22.48	8.3
86083	16-Sep	5.0	0.14	0.07	30.71	2.64	0.58	1.52	0.29	2.42	0.02	46.63	7.7
86083	16-Sep	10.0	0.64	0.14	31.43	3.29	0.58	1.68	0.45	2.59	***	54.12	8.3
86083	16-Sep	12.5	1.64	0.21	34.29	3.07	1.13	1.78	0.39	2.60	0.03	36.63	9.8
86084	16-Sep	1.0	***	0.14	25.00	2.50	0.58	1.36	0.42	2.47	0.04	31.64	8.2
86084	16-Sep	5.5	***	0.21	34.29	1.79	0.94	1.42	0.16	2.53	0.01	16.65	7.4
86085	17-Sep	1.0	***	0.14	24.29	2.36	0.36	1.32	0.36	2.48	0.01	20.82	9.5
86085	17-Sep	5.5	***	0.21	24.29	3.29	0.48	1.32	0.29	2.49	0.04	23.31	9.0
86086	17-Sep	1.0	***	0.14	22.86	2.14	0.36	1.23	0.13	2.52	0.07	14.15	9.7
86086	17-Sep	5.0	0.07	0.14	25.71	2.14	0.32	1.29	0.13	2.49	0.04	15.82	9.6
86086	17-Sep	10.0	0.14	0.14	25.71	2.21	0.45	1.42	0.16	2.52	0.03	18.32	8.5
86087	17-Sep	14.5	0.07	0.14	24.29	2.43	0.48	1.45	0.23	2.59	0.07	21.65	8.2
86087	17-Sep	1.0	0.07	0.07	23.57	2.36	0.39	1.16	0.13	2.55	0.07	18.32	10.5
86087	17-Sep	5.0	0.07	0.07	22.14	2.00	0.48	1.16	0.10	2.43	0.11	11.66	9.6
86087	17-Sep	10.0	0.14	0.07	21.43	2.00	0.52	1.23	0.10	2.41	0.07	12.49	8.8
86087	17-Sep	20.0	0.79	0.29	23.57	2.36	0.77	1.68	0.16	2.60	0.01	14.15	7.4
86087	17-Sep	27.0	2.07	0.21	27.14	2.43	1.16	1.91	0.19	2.65	0.01	15.82	11.4
86088	18-Sep	1.0	0.07	0.14	27.86	1.21	0.68	1.16	0.10	2.37	0.02	19.98	9.5
86088	18-Sep	5.0	0.50	0.14	27.86	1.07	0.84	1.29	0.10	2.45	0.04	10.82	8.3
86088	18-Sep	10.0	0.21	0.14	26.43	1.93	0.61	1.55	0.26	2.55	0.04	27.48	3.7
86088	18-Sep	20.0	2.29	0.29	30.00	0.64	1.07	1.97	0.06	2.59	***	12.49	9.4
86088	18-Sep	30.0	4.21	0.29	30.71	0.79	0.68	2.03	0.10	2.74	0.07	8.33	14.8
86088	18-Sep	50.0	4.29	0.21	33.57	1.07	1.13	2.23	0.16	2.75	0.03	11.66	20.2
86089	18-Sep	1.0	0.57	0.21	22.14	1.14	0.36	1.10	0.10	2.30	0.09	15.82	10.8
86089	18-Sep	5.0	***	0.14	20.71	1.21	0.39	1.19	0.10	2.42	0.08	11.66	10.0
86089	18-Sep	10.0	***	0.14	22.14	1.21	0.61	1.32	0.13	2.50	0.07	13.32	6.1
86089	18-Sep	20.0	2.00	0.21	25.71	1.36	1.16	1.87	0.13	2.48	***	14.99	10.6
86089	18-Sep	27.0	5.21	0.71	25.00	1.50	1.13	1.91	0.19	2.60	0.02	16.65	11.9
86090	19-Sep	1.0	***	0.21	20.00	1.50	0.58	1.16	0.13	2.29	0.03	14.15	10.9
86090	19-Sep	5.0	0.07	0.07	18.57	1.07	0.36	1.26	0.13	2.26	0.03	9.99	8.9
86090	19-Sep	10.0	0.29	0.14	19.29	1.71	0.48	1.29	0.29	2.55	0.06	22.48	8.4
86090	19-Sep	14.0	0.21	0.21	19.29	2.21	1.16	1.36	0.36	2.50	0.04	27.48	7.3
86091	19-Sep	1.0	2.64	0.07	15.71	2.43	0.10	0.77	0.39	2.28	0.12	34.97	38.8
86091	19-Sep	5.5	0.50	0.14	18.57	4.64	1.68	1.29	0.45	2.48	0.05	60.78	9.0
86092	20-Sep	1.0	1.07	***	12.86	2.14	0.19	0.52	0.32	2.22	0.19	26.64	43.4
86092	20-Sep	5.0	2.07	0.07	14.29	6.29	0.36	0.68	1.29	2.18	0.09	103.24	32.2
86093	20-Sep	1.0	0.71	***	16.43	1.86	0.19	0.74	0.19	2.33	0.06	18.32	26.2
86093	20-Sep	5.0	0.64	0.07	15.71	1.43	0.39	0.84	0.19	2.26	0.02	14.15	24.2
86093	20-Sep	10.0	0.43	0.14	17.14	0.64	0.81	1.16	0.10	2.32	0.03	7.49	13.7

* ; ** ; *** see footnotes on page 32.

Table 3a. cont'd.

STATION	DATE	DEPTH m	NO3-N $mmol \cdot m^{-3}$	NO2-N $mmol \cdot m^{-3}$	TDN $mmol \cdot m^{-3}$	PN $mmol \cdot m^{-3}$	PO4 $mmol \cdot m^{-3}$	TDP $mmol \cdot m^{-3}$	PP $mmol \cdot m^{-3}$	DIC $mol \cdot m^{-3}$	DOC $mol \cdot m^{-3}$	PC $mmol \cdot m^{-3}$	SI $mmol \cdot m^{-3}$
86093	20-Sep	13.0	2.14	0.36	22.86	1.21	0.87	1.42	0.16	2.51	0.02	13.32	13.8
86094	20-Sep	1.0	0.57	0.07	23.57	2.57	0.52	0.77	0.19	2.28	0.08	19.98	22.5
86094	20-Sep	5.0	0.21	0.07	25.71	1.36	0.48	0.84	0.13	2.29	0.05	11.66	20.0
86094	20-Sep	10.0	0.07	0.07	23.57	0.79	0.58	0.97	0.06	2.22	0.04	7.49	15.7
86094	20-Sep	20.0	1.71	0.21	28.57	0.64	1.00	1.74	0.06	2.59	0.01	7.49	10.6
86094	20-Sep	30.0	1.79	0.21	28.57	1.29	1.16	1.91	0.13	2.58	0.02	13.32	11.3

* ; ** ; *** see footnotes on page 32.

Table 3b. Chemistry analysis results for the Beaufort Sea Shelf area - 1986.

Station	Date	Depth m	CHL $mg \cdot m^{-1}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
86001	23-Mar	2.0	0.01	7	**	**	**	0.432
86001	23-Mar	5.0	0.01	6	**	**	**	0.448
86001	23-Mar	7.0	0.01	18	**	**	**	0.357
86001	23-Mar	13.0	0.01	29	**	**	**	0.354
86001	26-Mar	13.0	0.01	22	**	**	**	0.344
86002	28-Mar	2.0	0.06	21	**	**	**	0.394
86002	28-Mar	5.0	0.04	19	**	**	**	0.394
86002	28-Mar	10.0	0.03	19	**	**	**	0.388
86002	28-Mar	18.5	0.02	18	**	**	**	0.382
86003	29-Mar	2.0	0.03	11	**	**	**	0.438
86003	29-Mar	5.0	0.01	19	**	**	**	0.391
86003	29-Mar	10.0	0.03	10	**	**	**	0.401
86003	29-Mar	20.0	**	19	**	**	**	0.316
86003	29-Mar	49.0	**	19	**	**	**	0.310
86004	30-Mar	2.0	0.02	16	**	**	**	0.388
86004	30-Mar	5.0	0.03	17	**	**	**	0.366
86004	30-Mar	10.0	0.01	18	**	**	**	0.341
86004	30-Mar	20.0	0.01	21	**	**	**	0.347
86013	14-May	2.5	0.01	4	**	**	**	0.413
86014	14-May	2.5	0.04	4	**	**	**	0.404
86014	14-May	8.5	0.01	19	**	**	**	0.302
86016	14-May	2.5	0.06	12	**	**	**	0.407
86016	14-May	6.5	0.01	18	**	**	**	0.363
86016	14-May	14.5	0.01	15	**	**	**	0.360
86016	14-May	19.5	0.01	20	**	**	**	0.332
86005	17-May	2.5	0.01	14	**	**	**	0.402
86006	17-May	3.0	0.15	8	**	**	**	0.491
86006	17-May	6.5	0.53	18	**	**	**	0.362
86006	17-May	11.0	0.03	17	**	**	**	0.316
86008	17-May	3.0	1.09	18	**	**	**	0.419
86008	17-May	10.0	1.22	20	**	**	**	0.405
86008	17-May	30.0	0.06	19	**	**	**	0.343
86031	17-May	3.0	0.04	4	**	**	**	*
86020	18-May	3.0	0.09	38	**	**	**	0.401
86023	18-May	2.0	1.20	10	**	**	**	0.515
86023	18-May	6.5	0.28	18	**	**	**	0.399
86023	18-May	14.5	*	55	**	**	**	0.382
86023	18-May	50.0	0.01	21	**	**	**	0.313
86030	18-May	4.0	0.03	5	**	**	**	*
86026	20-May	2.5	0.02	3	**	**	**	0.382
86026	20-May	10.0	*	14	**	**	**	0.363
86026	20-May	19.0	*	21	**	**	**	0.299

* ; ** ; *** see footnotes on page 32.

Table 3b. Cont'd.

Station	Date	Depth m	CHL $mg \cdot m^{-1}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
86027	20-May	2.5	0.01	1	**	**	**	0.365
86027	20-May	6.5	0.01	15	**	**	**	0.374
86029	21-May	1.5	0.17	17	**	**	**	0.413
86029	21-May	5.0	0.18	16	**	**	**	0.418
86029	21-May	10.0	0.13	*	**	**	**	0.421
86029	21-May	35.0	0.03	20	**	**	**	0.310
86033	22-May	1.5	0.22	5	**	**	**	0.376
86033	22-May	5.0	1.10	14	**	**	**	0.423
86033	22-May	10.0	0.19	20	**	**	**	0.354
86033	22-May	15.0	0.10	20	**	**	**	0.347
86035	22-Jul	1.0	0.02	151	**	**	1.56	0.304
86035	22-Jul	3.5	0.06	35	**	**	2.09	0.333
86035	23-Jul	1.0	0.07	48	**	**	1.89	0.326
86035	23-Jul	3.5	0.03	51	**	**	2.17	0.329
86036	23-Jul	1.0	0.02	25	**	**	2.19	0.316
86036	23-Jul	3.5	0.04	29	**	**	2.21	0.338
86038	25-Jul	1.0	0.08	126	**	**	1.56	0.344
86038	25-Jul	2.5	0.03	30	**	**	2.15	0.343
86040	25-Jul	1.0	0.10	108	**	**	1.58	0.310
86040	25-Jul	2.0	0.11	122	**	**	1.56	*
86041	26-Jul	1.0	0.33	22	**	**	2.31	0.351
86041	26-Jul	5.0	0.29	26	**	**	2.31	0.340
86042	26-Jul	1.0	0.70	22	**	**	2.28	0.424
86042	26-Jul	5.0	2.00	24	**	**	2.32	0.410
86042	26-Jul	10.0	0.06	23	**	**	2.34	0.330
86042	26-Jul	15.0	0.05	31	**	**	2.37	0.327
86043	29-Jul	1.0	0.63	20	**	**	2.09	0.333
86043	29-Jul	5.0	0.60	23	**	**	2.23	0.323
86044	30-Jul	1.0	0.36	*	**	**	1.83	0.320
86044	30-Jul	5.0	2.80	14	**	**	2.18	0.339
86044	30-Jul	10.0	0.02	17	**	**	2.33	0.310
86044	30-Jul	15.0	0.02	20	**	**	2.34	0.307
86045	30-Jul	1.0	0.24	10	**	**	1.73	0.343
86045	30-Jul	5.0	0.08	17	**	**	2.21	0.354
86045	30-Jul	10.0	0.01	18	**	**	2.31	0.337
86045	30-Jul	20.0	0.01	21	**	**	2.34	0.310
86045	30-Jul	29.0	0.01	19	**	**	2.33	0.277
86046	31-Jul	1.0	0.54	24	**	**	2.05	0.339
86046	31-Jul	5.0	0.28	24	**	**	2.25	0.326
86047	31-Jul	1.0	0.46	10	**	**	1.64	0.362
86047	31-Jul	5.0	0.65	16	**	**	2.19	0.333
86047	31-Jul	10.0	0.44	20	**	**	2.28	0.335

* ; ** ; *** see footnotes on page 32.

Table 3b. Cont'd.

Station	Date	Depth m	CHL $mg \cdot m^{-1}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
86047	31-Jul	14.0	0.41	25	**	**	2.26	0.328
86048	01-Aug	1.0	0.22	7	**	**	1.5	0.365
86048	01-Aug	5.0	0.39	10	**	**	1.68	0.363
86048	01-Aug	10.0	0.03	15	**	**	2.26	0.379
86048	01-Aug	20.0	0.01	17	**	**	2.29	0.371
86048	01-Aug	30.0	0.01	16	**	**	2.31	0.348
86048	01-Aug	50.0	0.01	23	**	**	2.3	0.312
86048	01-Aug	100.0	0.01	16	**	**	2.31	0.301
86048	01-Aug	145.0	0.01	23	**	**	2.3	0.294
86049	01-Aug	1.0	0.27	6	**	**	1.49	0.370
86049	01-Aug	5.0	0.18	12	**	**	1.97	0.370
86049	01-Aug	10.0	0.03	14	**	**	2.27	0.370
86049	01-Aug	20.0	0.01	15	**	**	2.3	0.353
86049	01-Aug	30.0	0.01	18	**	**	2.29	0.331
86049	01-Aug	40.0	0.01	17	**	**	2.32	0.292
86051	03-Aug	1.0	0.26	26	**	**	1.93	0.357
86051	03-Aug	5.0	0.38	28	**	**	2.02	0.369
86052	03-Aug	1.0	0.22	23	**	**	1.91	0.372
86052	03-Aug	5.0	1.43	32	**	**	2.12	0.372
86052	03-Aug	10.0	0.11	33	**	**	2.32	0.366
86052	03-Aug	14.5	0.03	37	**	**	2.31	0.344
86053	08-Aug	1.0	0.33	26	**	**	2.05	0.376
86053	08-Aug	5.0	0.26	79	**	**	2.1	0.322
86056	10-Aug	1.0	0.12	26	**	**	2.14	**
86056	10-Aug	5.0	0.15	86	**	**	2.26	**
86057	10-Aug	1.0	0.02	13	**	**	2.17	**
86057	10-Aug	5.0	0.02	13	**	**	2.21	**
86057	10-Aug	10.0	0.20	17	**	**	2.29	**
86057	10-Aug	14.0	0.49	20	**	**	2.31	**
86058	11-Aug	1.0	0.03	15	**	**	2.18	**
86058	11-Aug	5.0	0.04	15	**	**	2.18	**
86058	11-Aug	10.0	0.05	14	**	**	2.21	**
86058	11-Aug	20.0	0.05	14	**	**	2.31	**
86058	11-Aug	30.0	0.13	18	**	**	2.32	**
86059	11-Aug	1.0	0.01	14	**	**	2.11	**
86059	11-Aug	5.0	0.02	12	**	**	2.17	**
86059	11-Aug	10.0	0.03	15	**	**	2.25	**
86059	11-Aug	20.0	0.03	21	**	**	2.27	**
86059	11-Aug	30.0	0.01	15	**	**	2.3	**
86059	11-Aug	48.0	0.01	16	**	**	2.37	**
86060	12-Aug	1.0	0.04	12	**	**	1.58	**
86060	12-Aug	5.0	0.07	33	**	**	1.92	**

* ; ** ; *** see footnotes on page 32.

Table 3b. Cont'd.

Station	Date	Depth m	CHL $mg \cdot m^{-1}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
86060	12-Aug	10.0	0.02	25	**	**	2.21	**
86060	12-Aug	20.0	0.02	27	**	**	2.29	**
86060	12-Aug	30.0	0.01	27	**	**	2.26	**
86060	12-Aug	50.0	**	27	**	**	2.28	**
86060	12-Aug	95.0	**	*	**	**	2.3	**
86061	12-Aug	285.0	**	28	**	**	2.32	**
86065	16-Aug	1.0	2.60	33	**	**	1.23	0.353
86065	16-Aug	5.0	2.60	42	**	**	2.33	0.354
86066	17-Aug	1.0	0.02	18	44.8	8.01	2.31	0.338
86066	17-Aug	5.0	0.03	14	45.0	8.02	2.31	0.335
86066	17-Aug	10.0	0.03	17	46.7	8.05	2.31	0.454
86066	17-Aug	15.0	1.82	20	47.2	7.98	2.33	0.372
86067	18-Aug	1.0	0.01	17	44.1	8.08	2.21	0.351
86067	18-Aug	10.0	0.01	21	46.2	8.10	2.26	0.463
86067	18-Aug	20.0	1.02	27	47.3	7.98	2.32	0.357
86067	18-Aug	29.0	**	27	47.3	7.99	2.33	0.313
86068	18-Aug	1.0	0.02	21	39.9	8.16	2.09	0.332
86068	18-Aug	10.0	0.01	22	40.2	8.12	2.09	0.344
86068	18-Aug	20.0	0.01	24	44.4	8.11	2.25	0.438
86068	18-Aug	30.0	0.04	24	44.8	8.13	2.25	0.432
86068	18-Aug	49.5	0.09	24	45.2	8.13	2.32	0.313
86069	19-Aug	1.0	0.02	21	39.6	7.91	1.98	0.351
86069	19-Aug	10.0	0.01	17	40.2	8.12	2.01	0.357
86069	19-Aug	20.0	0.01	23	42.3	8.07	2.21	0.407
86069	19-Aug	30.0	0.03	23	45.0	8.12	2.24	0.413
86069	19-Aug	50.0	0.23	24	45.4	8.10	2.27	0.351
86069	19-Aug	100.0	0.03	24	45.7	8.12	2.26	0.307
86070	19-Aug	1.0	0.02	20	34.0	8.04	2.01	0.329
86070	19-Aug	10.0	0.02	23	43.4	8.19	2.06	0.357
86070	19-Aug	20.0	0.01	22	46.0	8.19	2.12	0.394
86070	19-Aug	30.0	0.02	22	47.5	8.18	2.24	0.419
86070	19-Aug	45.0	0.17	24	48.7	8.19	2.27	0.338
86071	20-Aug	1.0	0.02	20	**	**	2.02	0.351
86071	20-Aug	5.0	0.02	35	**	**	2.02	0.351
86071	20-Aug	10.0	0.03	22	**	**	2.2	0.413
86071	20-Aug	20.0	0.10	25	**	**	2.28	0.388
86071	20-Aug	29.0	0.12	30	**	**	2.28	0.379
86072	21-Aug	1.0	0.05	22	**	**	2.32	0.351
86072	21-Aug	5.0	0.15	29	**	**	2.32	0.351
86072	21-Aug	10.0	0.32	35	**	**	2.31	0.360
86072	21-Aug	15.0	0.37	43	**	**	2.32	0.363
86034	27-Aug	1.0	0.16	55	3.9	8.24	1.77	0.355

* ; ** ; *** see footnotes on page 32.

Table 3b. Cont'd.

Station	Date	Depth m	CHL $mg \cdot m^{-1}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
86034	27-Aug	4.0	0.20	42	10.5	8.08	1.87	*
86073	28-Aug	1.0	0.18	41	21.5	8.32	1.95	0.341
86073	28-Aug	4.0	0.22	94	26.0	8.29	1.99	0.338
86074	28-Aug	1.0	0.17	57	11.8	8.36	1.84	0.357
86074	28-Aug	3.5	0.20	98	26.8	8.26	2	0.344
86075	29-Aug	1.0	0.14	*	1.1	8.54	1.74	0.351
86076	30-Aug	1.0	0.10	23	37.0	8.21	2.04	0.348
86076	30-Aug	5.0	0.10	23	37.0	8.22	2.03	0.346
86076	30-Aug	10.0	0.06	37	45.5	8.21	2.25	0.367
86076	30-Aug	13.0	0.06	32	46.0	8.22	2.24	0.367
86077	30-Aug	1.0	0.14	51	35.6	8.22	2	0.338
86077	30-Aug	4.0	0.14	58	35.6	8.21	2	0.337
86078	04-Sep	1.0	0.03	21	41.1	8.21	2.17	0.331
86078	04-Sep	5.0	0.09	21	42.4	8.20	2.19	0.336
86078	04-Sep	10.0	0.11	34	44.9	8.15	2.26	0.335
86078	04-Sep	14.5	0.15	54	45.4	8.18	2.26	0.336
86079	05-Sep	1.0	0.05	23	42.5	8.21	2.19	0.334
86079	05-Sep	5.0	0.07	26	44.0	8.21	2.22	0.336
86080	10-Sep	1.0	0.10	31	11.0	8.35	1.85	0.416
86080	10-Sep	5.0	0.13	19	17.7	8.29	1.91	0.407
86081	15-Sep	1.0	0.06	19	39.3	8.25	2.06	0.357
86081	15-Sep	5.0	0.13	21	42.9	8.26	2.17	0.380
86081	15-Sep	10.0	0.12	23	44.1	8.24	2.2	0.391
86081	15-Sep	20.0	0.03	20	46.9	8.14	2.25	0.406
86081	15-Sep	30.0	0.02	20	47.0	8.24	2.26	0.405
86081	15-Sep	50.0	0.03	22	47.7	8.18	2.27	0.355
86081	15-Sep	150.0	0.01	20	48.5	8.19	2.27	0.333
86082	16-Sep	1.0	0.03	21	38.5	8.26	2.05	0.358
86082	16-Sep	5.0	0.05	22	38.8	8.23	2.07	0.361
86082	16-Sep	10.0	0.07	21	43.6	8.23	2.19	0.402
86082	16-Sep	20.0	0.19	27	46.5	8.24	2.26	0.389
86082	16-Sep	30.0	0.13	25	46.8	8.17	2.25	0.376
86082	16-Sep	46.0	0.04	25	47.6	8.24	2.27	0.372
86083	16-Sep	1.0	0.07	22	40.1	8.21	2.1	0.360
86083	16-Sep	5.0	0.12	22	41.4	8.23	2.12	0.348
86083	16-Sep	10.0	0.23	33	43.9	8.21	2.21	0.373
86083	16-Sep	12.5	0.20	32	44.8	8.23	2.22	0.357
86084	16-Sep	1.0	0.09	30	40.1	8.20	2.11	0.364
86084	16-Sep	5.5	0.08	28	41.0	8.23	2.14	0.364
86085	17-Sep	1.0	0.12	22	38.3	8.25	2.08	0.354
86085	17-Sep	5.5	0.11	24	39.3	8.22	2.09	0.357
86086	17-Sep	1.0	0.08	19	37.7	8.23	2.06	0.354

* ; ** ; *** see footnotes on page 32.

Table 3b. Cont'd.

Station	Date	Depth m	CHL $mg \cdot m^{-1}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
86086	17-Sep	5.0	0.09	21	37.9	8.23	2.07	0.357
86086	17-Sep	10.0	0.15	22	40.3	8.25	2.13	0.363
86086	17-Sep	14.5	0.17	25	40.9	8.25	2.14	0.363
86087	17-Sep	1.0	0.06	20	36.6	8.26	2.04	0.357
86087	17-Sep	5.0	0.06	19	37.5	8.27	2.05	0.351
86087	17-Sep	10.0	0.08	18	38.8	8.26	2.09	0.363
86087	17-Sep	20.0	0.30	21	44.7	8.24	2.25	0.391
86087	17-Sep	27.0	0.25	28	46.2	8.22	2.26	0.372
86088	18-Sep	1.0	0.05	17	37.4	8.25	2.04	0.356
86088	18-Sep	5.0	0.08	17	39.0	8.24	2.07	0.365
86088	18-Sep	10.0	0.13	19	43.8	8.25	2.21	0.389
86088	18-Sep	20.0	0.05	20	46.5	8.24	2.27	0.385
86088	18-Sep	30.0	0.10	22	46.9	8.24	2.29	0.359
86088	18-Sep	50.0	0.07	23	47.2	8.22	2.28	0.329
86089	18-Sep	1.0	0.06	16	35.8	8.22	2.01	0.357
86089	18-Sep	5.0	0.07	16	36.8	8.24	2.03	0.358
86089	18-Sep	10.0	0.10	20	41.5	8.23	2.18	0.374
86089	18-Sep	20.0	0.18	23	46.3	8.19	2.28	0.376
86089	18-Sep	27.0	0.10	24	46.6	8.22	2.28	0.319
86090	19-Sep	1.0	0.07	17	36.4	8.21	2.02	0.356
86090	19-Sep	5.0	0.04	18	41.1	8.24	2.05	0.357
86090	19-Sep	10.0	0.12	25	45.6	8.21	2.18	0.359
86090	19-Sep	14.0	0.22	27	44.9	8.19	2.19	0.348
86091	19-Sep	1.0	0.12	21	18.9	8.33	1.95	0.354
86091	19-Sep	5.5	0.07	29	47.4	8.24	2.16	0.342
82092	20-Sep	1.0	0.18	15	12.4	8.56	1.86	0.424
86092	20-Sep	5.0	0.13	43	20.2	8.46	1.93	0.423
86093	20-Sep	1.0	0.17	15	24.7	8.48	1.96	0.428
86093	20-Sep	5.0	0.11	17	26.4	8.48	1.96	0.445
86093	20-Sep	10.0	0.03	19	36.0	8.40	2.07	0.415
86093	20-Sep	13.0	0.04	21	41.3	8.48	2.2	0.408
86094	20-Sep	1.0	0.23	15	26.7	8.45	1.95	0.338
86094	20-Sep	5.0	0.11	16	29.3	8.45	1.97	0.353
86094	20-Sep	10.0	0.06	18	32.4	8.45	1.99	0.344
86094	20-Sep	20.0	0.03	22	45.0	8.42	2.26	0.360
86094	20-Sep	30.0	0.02	27	46.2	8.40	2.28	0.324

* ; ** ; *** see footnotes on page 32.

Table 4a. Chemistry analysis results for the Beaufort Sea Shelf area - 1987.

Station	Date	Depth m	NO3-N mmol·m^{-3}	NO2-N mmol·m^{-3}	TDN mmol·m^{-3}	PN mmol·m^{-3}	PO4 mmol·m^{-3}	TDP mmol·m^{-3}	PP mmol·m^{-3}	DIC mol·m^{-3}	DOC mol·m^{-3}	PC mmol·m^{-3}	SI mmol·m^{-3}
87001	19-Mar	2.0	3.9	0.14	45.00	0.50	1.03	1.74	0.06	2.70	0.36	7.49	22.0
87001	19-Mar	5.0	3.6	0.14	39.29	0.57	0.97	1.68	0.10	2.70	0.44	7.49	22.1
87001	19-Mar	10.0	3.2	0.14	37.86	0.57	0.97	1.87	0.06	2.70	0.35	7.49	19.7
87001	19-Mar	20.0	3.6	0.14	35.72	1.07	1.13	1.94	0.10	2.50	0.28	10.82	20.5
87002	20-Mar	2.0	5.9	0.07	24.29	0.57	0.39	0.87	0.06	2.90	0.31	9.16	64.8
87002	20-Mar	5.0	6.9	0.14	23.57	0.57	0.48	0.94	0.06	2.70	0.27	7.49	63.4
87002	20-Mar	10.0	5.0	0.21	32.14	0.57	1.19	1.81	0.10	2.60	0.18	8.33	23.4
87002	20-Mar	14.5	5.5	0.21	32.14	0.93	1.42	1.81	0.13	2.70	0.22	9.99	22.2
87003	21-Mar	2.0	2.9	0.21	30.71	0.50	1.32	1.94	***	2.50	0.15	6.66	10.9
87003	21-Mar	5.0	2.0	0.14	31.43	0.50	0.97	1.91	0.06	2.40	0.16	5.00	10.8
87003	21-Mar	7.5	1.7	0.14	29.29	0.29	1.03	1.87	0.10	2.40	0.20	4.16	10.1
87004	22-Mar	2.0	8.9	***	22.86	1.07	0.03	0.45	0.13	1.40	0.35	19.98	67.3
87006	06-May	2.0	8.9	***	21.43	1.21	0.06	0.42	0.13	1.10	0.36	18.32	66.2
87007	07-May	2.0	1.2	0.07	25.71	1.86	0.16	0.68	0.13	2.86	0.23	24.15	53.8
87007	07-May	5.0	1.6	0.07	25.71	1.43	0.19	0.74	0.10	2.86	0.24	17.48	51.6
87007	07-May	10.0	2.9	0.14	30.71	0.71	0.90	1.81	0.06	2.53	0.25	10.82	23.3
87007	07-May	16.5	3.5	0.14	31.43	0.57	1.10	1.91	0.10	2.42	0.25	10.82	21.5
87008	08-May	1.5	1.1	0.14	26.43	1.36	1.29	1.74	0.10	2.42	0.17	10.82	8.7
87008	08-May	5.0	0.8	0.14	27.14	0.79	1.26	1.68	0.10	2.31	0.21	8.33	9.0
87008	08-May	10.0	0.7	0.14	33.57	0.64	1.10	1.78	0.10	2.42	0.24	7.49	8.9
87008	08-May	12.5	1.0	0.14	27.86	0.79	1.16	1.81	0.06	2.42	0.18	9.16	8.7
87009	09-May	2.0	1.9	***	19.29	2.43	0.13	0.61	0.16	2.53	0.25	21.65	58.0
87009	09-May	5.0	2.6	0.07	17.86	1.43	0.16	0.61	0.10	2.64	0.27	14.15	58.0
87009	09-May	10.0	4.6	0.14	29.29	0.43	1.26	1.81	0.10	2.53	0.15	6.66	20.7
87009	09-May	16.5	3.8	0.14	30.00	0.57	1.23	1.97	0.10	2.42	0.21	9.99	19.6
87010	12-May	2.0	3.4	***	18.57	2.00	0.10	0.48	0.16	2.42	0.34	23.31	70.1
87010	12-May	5.0	3.5	***	19.29	1.36	0.10	0.42	0.10	2.42	0.33	15.82	70.5
87010	12-May	10.0	2.7	0.07	30.71	0.50	0.74	1.78	0.13	2.64	0.16	8.33	23.1
87011	13-May	2.0	9.0	***	23.57	0.86	0.06	0.45	0.13	1.65	0.40	14.99	5.5
87011	13-May	4.5	8.9	***	20.71	0.79	0.06	0.45	0.10	1.54	0.44	12.49	5.7
87012	17-May	2.0	6.8	***	20.71	0.50	0.13	0.55	0.06	2.31	0.32	10.82	6.0
87012	17-May	5.0	7.2	***	20.00	0.57	0.16	0.55	0.06	2.31	0.31	9.99	5.8
87012	17-May	6.2	8.6	0.14	29.29	0.57	0.90	1.29	0.10	2.75	0.19	9.16	26.0
87013	19-May	2.0	9.7	***	23.57	0.86	0.16	0.65	0.16	2.75	0.40	19.15	57.3
87013	19-May	4.5	11.1	0.14	24.29	0.86	0.16	0.65	0.16	2.64	0.38	15.82	79.4
87015	19-Jul	1.0	**	**	30.71	11.43	**	1.03	2.29	2.38	0.05	98.25	**
87015	19-Jul	5.0	**	**	27.14	16.29	**	1.26	2.32	2.49	0.05	140.71	**
87016	19-Jul	1.0	**	**	20.71	1.57	**	0.61	0.16	2.35	0.08	21.65	**
87016	19-Jul	5.0	**	**	23.57	2.36	**	0.97	0.26	2.55	0.08	49.96	**

* ; ** ; *** see footnotes on page 32.

Table 4a. Cont'd.

Station	Date	Depth m	NO3-N mmol·m^{-3}	NO2-N mmol·m^{-3}	TDN mmol·m^{-3}	PN mmol·m^{-3}	PO4 mmol·m^{-3}	TDP mmol·m^{-3}	PP mmol·m^{-3}	DIC mol·m^{-3}	DOC mol·m^{-3}	PC mmol·m^{-3}	SI mmol·m^{-3}
87016	19-Jul	10.0	**	**	20.71	6.21	**	1.16	0.52	2.47	0.05	59.11	**
87016	19-Jul	15.0	**	**	20.00	10.86	**	1.39	0.87	2.37	0.08	96.58	**
87017	20-Jul	1.0	**	**	17.86	3.21	**	0.90	0.13	2.31	0.08	32.47	**
87017	20-Jul	5.0	**	**	20.00	0.86	**	1.16	0.06	2.60	0.07	13.32	**
87017	20-Jul	10.0	**	**	19.29	0.79	**	1.36	0.06	2.37	0.05	12.49	**
87017	20-Jul	20.0	**	**	24.29	0.43	**	1.68	***	2.29	0.03	7.49	**
87017	20-Jul	30.0	**	**	23.57	0.43	**	1.58	***	2.33	0.05	5.83	**
87017	20-Jul	40.0	**	**	35.00	0.50	**	2.26	0.06	2.29	0.04	8.33	**
87018	20-Jul	1.0	**	**	24.29	1.21	**	0.68	0.13	2.20	0.08	17.48	**
87018	20-Jul	5.0	**	**	23.57	4.36	**	1.00	0.16	2.22	0.08	18.32	**
87018	20-Jul	10.0	**	**	22.14	0.71	**	1.32	0.06	2.12	0.07	9.99	**
87018	20-Jul	20.0	**	**	23.57	0.50	**	1.36	0.06	2.24	0.05	7.49	**
87018	20-Jul	30.0	**	**	22.14	0.57	**	1.45	0.06	2.22	0.06	8.33	**
87018	20-Jul	50.0	**	**	33.57	0.57	**	2.03	***	2.31	0.05	7.49	**
87018	20-Jul	100.0	**	**	37.86	0.43	**	2.32	***	2.41	0.04	5.00	**
87018	20-Jul	135.0	**	**	37.14	0.43	**	2.26	***	2.27	0.05	7.49	**
87020	22-Jul	1.0	**	**	18.57	5.93	**	0.87	0.65	2.27	0.08	59.11	**
87020	22-Jul	5.5	**	**	21.43	18.29	**	1.13	2.87	2.61	0.07	171.52	**
87021	22-Jul	1.0	**	**	17.14	5.36	**	1.03	0.48	2.33	0.06	39.13	**
87021	22-Jul	5.0	**	**	20.71	38.14	**	1.36	0.32	2.27	0.06	35.80	**
87021	22-Jul	10.0	**	**	24.29	20.29	**	1.55	0.48	2.24	0.07	33.30	**
87021	22-Jul	15.0	**	**	25.00	9.64	**	1.58	0.32	2.29	0.06	36.63	**
87022	22-Jul	1.0	**	**	12.14	2.71	**	0.45	0.26	2.06	0.11	28.31	**
87022	22-Jul	5.0	**	**	17.14	11.36	**	0.97	0.16	2.24	0.08	21.65	**
87022	22-Jul	10.0	**	**	15.71	15.29	**	1.13	0.19	2.26	0.06	27.48	**
87022	22-Jul	20.0	**	**	23.57	6.29	**	1.65	0.19	2.23	0.06	30.81	**
87022	22-Jul	29.0	**	**	27.14	7.07	**	1.81	0.13	2.28	0.06	16.65	**
87023	23-Jul	1.0	**	**	16.43	1.21	**	0.71	0.16	2.05	0.09	34.14	**
87023	23-Jul	5.0	**	**	21.43	3.14	**	1.29	0.16	2.21	0.07	26.64	**
87023	23-Jul	10.0	**	**	25.00	1.50	**	1.68	0.16	2.15	0.07	16.65	**
87023	23-Jul	20.0	**	**	28.57	0.93	**	1.94	0.13	2.50	0.06	11.66	**
87023	23-Jul	30.0	**	**	30.71	1.14	**	2.07	0.10	2.51	0.08	48.29	**
87023	23-Jul	46.0	**	**	35.00	0.86	**	2.23	0.13	2.51	0.08	11.66	**
87024	23-Jul	1.0	**	**	14.29	1.93	**	0.45	0.16	2.16	0.13	19.15	**
86024	23-Jul	5.0	**	**	20.00	2.00	**	0.94	0.19	2.42	0.10	18.32	**
87024	23-Jul	10.0	**	**	25.00	2.00	**	1.74	0.16	2.46	0.07	18.32	**
87024	23-Jul	20.0	**	**	38.57	1.29	**	2.10	0.13	2.57	0.10	14.99	**
87024	23-Jul	30.0	**	**	39.29	1.07	**	2.16	0.16	2.55	0.07	13.32	**
87025	23-Jul	1.0	**	**	17.86	3.14	**	0.52	0.29	1.85	1.52	71.60	**

* ; ** ; *** see footnotes on page 32.

Table 4a. Cont'd.

Station	Date	Depth m	NO3-N mmol·m^{-3}	NO2-N mmol·m^{-3}	TDN mmol·m^{-3}	PN mmol·m^{-3}	PO4 mmol·m^{-3}	TDP mmol·m^{-3}	PP mmol·m^{-3}	DIC mol·m^{-3}	DOC mol·m^{-3}	PC mmol·m^{-3}	SI mmol·m^{-3}
87025	23-Jul	5.0	**	**	25.00	2.00	**	0.97	0.23	2.31	0.09	23.31	**
87025	23-Jul	10.0	**	**	26.43	2.21	**	1.68	0.19	2.44	0.07	22.48	**
87025	23-Jul	13.5	**	**	32.86	3.93	**	1.94	0.45	2.36	0.08	29.97	**
87026	24-Jul	1.0	**	**	25.00	4.64	**	1.36	0.97	2.05	0.14	59.11	**
87026	24-Jul	5.0	**	**	17.86	6.43	**	1.19	1.07	2.42	0.08	69.94	**
87014	26-Jul	0.0	**	**	12.14	5.00	**	0.36	0.84	1.60	0.23	71.60	**
87014	26-Jul	1.0	**	**	11.43	4.50	**	0.39	0.77	1.54	0.22	61.61	**
87014	26-Jul	4.0	**	**	24.29	5.14	**	1.16	0.68	2.18	0.07	54.95	**
87027	26-Jul	0.0	**	**	10.71	10.50	**	0.42	2.36	2.00	0.34	237.29	**
87027	26-Jul	1.0	**	**	11.43	9.43	**	0.39	1.97	2.11	0.36	204.82	**
87028	28-Jul	0.0	**	**	15.71	4.00	**	0.58	0.71	1.95	0.11	79.10	**
87028	28-Jul	1.0	**	**	17.86	4.00	**	0.68	0.65	2.41	0.06	64.94	**
87028	28-Jul	4.0	**	**	24.29	11.71	**	1.16	2.10	2.10	0.16	182.34	**
87029	28-Jul	0.0	**	**	24.29	5.71	**	1.23	0.94	2.33	0.10	88.26	**
87029	28-Jul	1.0	**	**	22.86	5.64	**	1.19	1.03	2.46	0.10	79.93	**
87029	28-Jul	5.0	**	**	21.43	8.43	**	1.19	1.78	2.44	0.09	136.55	**
87030	29-Jul	0.0	**	**	21.43	6.71	**	0.87	0.84	2.27	0.11	71.60	**
87030	29-Jul	1.0	**	**	20.00	6.57	**	0.84	0.77	2.39	0.11	60.78	**
87030	29-Jul	4.0	**	**	20.71	9.71	**	0.94	1.49	2.32	0.10	139.63	**
87031	29-Jul	0.0	**	**	15.71	4.79	**	0.61	0.94	2.11	0.18	75.52	**
87031	29-Jul	1.0	**	**	17.86	5.43	**	0.71	1.03	2.26	0.17	81.01	**
87031	29-Jul	2.5	**	**	19.29	5.21	**	0.74	1.00	2.27	0.13	74.68	**
87032	01-Aug	0.0	**	**	17.14	2.29	**	0.90	0.26	2.29	0.10	24.40	**
87032	01-Aug	1.0	**	**	16.43	2.36	**	0.81	0.23	2.28	0.10	24.40	**
87032	01-Aug	5.0	**	**	17.14	2.50	**	0.97	0.29	2.28	0.10	26.06	**
87032	01-Aug	8.5	**	**	17.14	3.79	**	1.07	0.65	2.42	0.09	72.69	**
87033	01-Aug	0.0	**	**	31.43	7.29	**	0.94	1.42	2.28	0.11	114.07	**
87033	01-Aug	1.0	**	**	28.57	7.29	**	0.84	0.32	2.43	0.11	111.57	**
87033	01-Aug	5.0	**	**	25.00	16.50	**	0.90	0.58	2.40	0.11	192.33	**
87034	02-Aug	0.5	**	**	25.71	1.86	**	0.84	0.16	2.29	0.09	18.32	**
87034	02-Aug	1.0	**	**	23.57	3.00	**	0.71	0.16	2.32	0.10	16.65	**
87034	02-Aug	5.0	**	**	23.57	2.21	**	0.94	0.16	2.31	0.10	16.65	**
87034	02-Aug	10.0	**	**	23.57	2.71	**	1.19	0.19	2.45	0.08	18.32	**
87034	02-Aug	14.0	**	**	23.57	6.57	**	1.36	0.32	2.28	0.13	24.98	**
87035	03-Aug	0.0	**	**	22.14	1.14	**	0.13	***	2.30	0.15	14.15	**
87035	03-Aug	1.0	**	**	22.86	3.86	**	1.10	***	2.36	0.10	10.82	**
87035	03-Aug	5.0	**	**	20.00	3.86	**	1.07	0.06	2.29	0.08	11.66	**
87035	03-Aug	10.0	**	**	21.43	4.29	**	1.16	0.06	2.35	0.07	12.49	**
87035	03-Aug	20.0	**	**	22.14	9.50	**	1.49	0.23	2.40	0.08	20.82	**

* ; ** ; *** see footnotes on page 32.

Table 4a. Cont'd.

Station	Date	Depth m	NO3-N mmol·m^{-3}	NO2-N mmol·m^{-3}	TDN mmol·m^{-3}	PN mmol·m^{-3}	PO4 mmol·m^{-3}	TDP mmol·m^{-3}	PP mmol·m^{-3}	DIC mol·m^{-3}	DOC mol·m^{-3}	PC mmol·m^{-3}	SI mmol·m^{-3}
87035	03-Aug	25.0	**	**	22.14	6.71	**	1.68	0.26	2.47	0.07	22.48	**
87036	04-Aug	0.0	**	**	20.71	2.86	**	1.10	0.10	2.36	0.09	14.99	**
87036	04-Aug	1.0	**	**	19.29	1.21	**	1.13	0.06	2.35	0.09	29.97	**
87036	04-Aug	4.0	**	**	20.00	1.50	**	1.13	0.06	2.42	0.09	39.13	**
87036	04-Aug	10.0	**	**	18.57	8.93	**	1.29	0.06	2.27	0.06	11.66	**
87036	04-Aug	20.0	**	**	20.71	11.29	**	1.52	0.06	2.40	0.06	11.66	**
87036	04-Aug	30.0	**	**	21.43	4.36	**	1.87	0.06	2.32	0.06	30.81	**
87036	04-Aug	50.0	**	**	20.00	5.29	**	1.68	***	2.32	0.06	10.82	**
87036	04-Aug	100.0	**	**	30.71	5.79	**	2.36	0.06	2.26	0.06	9.16	**
87036	04-Aug	125.0	**	**	30.71	1.71	**	2.42	0.06	2.28	0.06	12.49	**
87036	04-Aug	150.0	**	**	45.00	1.36	**	2.58	***	2.40	0.05	19.15	**
87036	04-Aug	210.0	**	**	42.14	1.43	**	2.10	***	2.34	0.05	11.66	**
87037	05-Aug	0.0	**	**	25.71	1.50	**	1.36	*	2.20	0.06	23.90	**
87038	05-Aug	0.0	**	**	25.00	0.93	**	1.10	0.06	2.22	0.06	164.27	**
87050	05-Aug	1.0	**	**	22.86	2.21	**	1.10	*	2.33	0.07	23.31	**
87039	06-Aug	0.0	**	**	25.71	1.79	**	1.19	0.06	2.31	0.08	12.74	**
87039	06-Aug	1.0	**	**	22.14	0.93	**	1.07	0.06	2.26	0.06	9.99	**
87039	06-Aug	5.0	**	**	22.14	*	**	1.07	0.06	2.28	0.06	*	**
87039	06-Aug	10.0	**	**	22.86	1.29	**	1.10	0.06	2.29	0.04	11.66	**
87039	06-Aug	20.0	**	**	22.14	0.79	**	1.49	0.06	2.46	0.05	8.91	**
87039	06-Aug	30.0	**	**	22.14	1.36	**	1.65	0.10	2.42	0.05	11.07	**
87039	06-Aug	47.0	**	**	26.43	2.07	**	2.03	0.16	2.27	0.05	15.57	**
87051	10-Aug	1.0	**	**	18.57	2.29	**	1.10	0.10	2.32	0.08	19.98	**
87052	12-Aug	1.0	**	**	23.57	4.07	**	1.19	*	2.32	0.05	14.15	**
87053	13-Aug	1.0	**	**	21.43	1.64	**	1.07	*	2.29	0.05	12.49	**
87054	17-Aug	1.0	**	**	21.43	1.14	**	1.03	0.13	*	0.12	12.49	**
87055	17-Aug	1.0	**	**	22.14	1.14	**	2.52	0.10	2.38	0.12	15.82	**
87056	17-Aug	1.0	**	**	15.00	2.43	**	0.58	0.26	2.26	0.17	22.48	**
87059	18-Aug	1.0	**	**	21.43	1.36	**	0.87	0.16	*	0.10	16.65	**
87060	21-Aug	0.0	**	**	22.14	4.29	**	1.52	0.81	2.47	0.04	78.26	**
87060	21-Aug	1.0	**	**	25.00	4.21	**	1.42	0.61	2.53	0.05	49.96	**
87060	21-Aug	5.0	**	**	22.86	6.00	**	1.45	0.65	2.46	0.12	68.27	**
87061	22-Aug	0.0	**	**	17.14	4.07	**	1.23	0.29	2.27	0.07	61.61	**
87061	22-Aug	1.0	**	**	19.29	2.93	**	1.16	0.26	2.40	0.07	43.88	**
87061	22-Aug	5.0	**	**	20.00	2.93	**	1.19	0.29	2.36	0.07	37.72	**
87062	22-Aug	0.0	**	**	30.00	0.93	**	1.42	0.06	2.17	0.07	10.82	**
87062	22-Aug	1.0	**	**	27.86	1.14	**	1.39	0.06	2.09	0.06	12.49	**
87062	22-Aug	5.0	**	**	25.71	0.93	**	1.42	0.06	2.18	0.06	14.15	**
87062	22-Aug	10.0	**	**	25.71	1.14	**	1.45	0.10	2.11	0.05	16.65	**

* ; ** ; *** see footnotes on page 32.

Table 4a. Cont'd.

Station	Date	Depth m	NO3-N $mmol \cdot m^{-3}$	NO2-N $mmol \cdot m^{-3}$	TDN $mmol \cdot m^{-3}$	PN $mmol \cdot m^{-3}$	PO4 $mmol \cdot m^{-3}$	TDP $mmol \cdot m^{-3}$	PP $mmol \cdot m^{-3}$	DIC $mol \cdot m^{-3}$	DOC $mol \cdot m^{-3}$	PC $mmol \cdot m^{-3}$	SI $mmol \cdot m^{-3}$
87062	22-Aug	20.0	**	**	23.57	6.00	**	1.49	0.48	2.33	0.05	58.28	**
87062	22-Aug	28.0	**	**	26.43	6.07	**	1.68	0.52	2.33	0.07	44.96	**
87063	23-Aug	0.0	**	**	23.57	0.57	**	1.45	0.06	2.08	0.04	7.49	**
87063	23-Aug	1.0	**	**	23.57	0.71	**	1.49	0.06	2.17	0.02	6.66	**
87063	23-Aug	5.0	**	**	22.14	0.79	**	1.45	0.06	2.07	0.05	8.33	**
87063	23-Aug	10.0	**	**	22.86	0.79	**	1.42	0.06	2.23	0.05	9.99	**
87063	23-Aug	20.0	**	**	22.86	0.57	**	1.58	0.06	2.28	0.03	5.83	**
87063	23-Aug	30.0	**	**	22.86	0.71	**	1.58	0.06	2.46	0.06	7.49	**
87063	23-Aug	100.0	**	**	28.57	1.64	**	2.00	0.16	2.58	0.03	14.99	**
87063	23-Aug	190.0	**	**	37.14	0.86	**	2.32	0.10	2.38	0.03	8.33	**
87064	24-Aug	0.0	**	**	21.43	2.14	**	5.10	0.19	2.35	0.08	18.32	**
87064	24-Aug	5.0	**	**	15.71	2.21	**	1.16	0.52	2.45	0.10	19.15	**
87064	24-Aug	15.0	**	**	22.86	6.43	**	1.32	1.84	2.51	0.10	82.43	**
87066	25-Aug	0.0	**	**	15.00	4.29	**	1.13	*	2.36	0.12	46.63	**
87066	25-Aug	1.0	**	**	14.29	4.00	**	0.74	*	2.31	0.08	46.63	**
87066	25-Aug	5.0	**	**	15.71	6.43	**	0.90	*	2.31	0.12	91.59	**
87067	25-Aug	0.0	**	**	30.71	3.29	**	0.90	*	2.32	0.09	44.13	**
87067	25-Aug	1.0	**	**	28.57	3.71	**	0.84	*	2.41	0.11	49.12	**
87067	25-Aug	5.0	**	**	25.00	4.64	**	0.97	*	2.37	0.10	65.78	**
87067	25-Aug	15.0	**	**	24.29	14.93	**	1.03	0.81	2.74	0.04	209.82	**
87065	26-Aug	1.0	**	**	17.86	1.29	**	1.23	0.10	2.38	0.09	11.66	**
87065	26-Aug	5.0	**	**	17.14	*	**	1.16	0.10	2.40	0.10	*	**
87065	26-Aug	10.0	**	**	17.14	1.86	**	1.23	0.13	2.40	0.07	10.82	**
87065	26-Aug	20.0	**	**	19.29	2.79	**	1.39	0.26	2.63	0.07	23.31	**
87065	26-Aug	25.0	**	**	19.29	4.43	**	1.45	0.52	2.59	0.09	38.30	**
87068	27-Aug	1.0	**	**	13.57	8.00	**	0.61	0.32	2.06	0.23	132.38	**
87068	27-Aug	5.0	**	**	11.43	7.79	**	0.52	0.32	2.18	0.24	123.22	**
87069	27-Aug	1.0	**	**	22.14	1.43	**	0.97	0.19	2.36	0.09	23.31	**
87069	27-Aug	5.0	**	**	23.57	1.07	**	1.10	0.16	2.52	0.08	19.98	**
87069	27-Aug	10.0	**	**	22.86	1.07	**	1.23	0.19	2.73	0.05	19.15	**

* ; ** ; *** see footnotes on page 32.

Table 4b. Chemistry analysis results for the Beaufort Sea Shelf area - 1987.

Station	Date	Depth m	CHL $mg \cdot m^{-3}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
87001	19-Mar	2.0	0.16	17	43.3	8.25	2.56	0.357
87001	19-Mar	5.0	0.10	21	43.4	8.24	2.53	0.357
87001	19-Mar	10.0	0.06	22	44.6	8.21	2.47	0.359
87001	19-Mar	20.0	0.05	22	45.3	8.22	2.46	0.342
87002	20-Mar	2.0	0.16	7	16.7	8.44	2.67	0.450
87002	20-Mar	5.0	0.11	8	18.9	8.44	2.68	0.444
87002	20-Mar	10.0	0.05	19	42.0	8.25	2.44	0.356
87002	20-Mar	14.5	0.04	23	43.9	8.18	2.43	0.347
87003	21-Mar	2.0	0.05	20	45.6	8.21	2.30	0.378
87003	21-Mar	5.0	0.05	21	45.6	8.18	2.33	0.372
87003	21-Mar	7.5	0.05	24	45.7	8.20	2.35	0.375
87004	22-Mar	2.0	0.11	3	0.4	8.56	2.04	0.391
87006	06-May	2.0	0.62	4	0.3	8.51	2.00	0.353
87007	07-May	2.0	2.20	7	17.3	8.37	2.80	0.570
87007	07-May	5.0	1.17	8	20.1	8.35	2.74	0.483
87007	07-May	10.0	0.23	17	43.2	8.25	2.42	0.349
87007	07-May	16.5	0.06	22	45.5	8.23	2.37	0.335
87008	08-May	1.5	0.48	20	46.1	8.15	2.32	0.394
87008	08-May	5.0	0.43	19	46.1	8.16	2.32	0.392
87008	08-May	10.0	0.40	21	46.1	8.17	2.33	0.396
87008	08-May	12.5	0.36	20	46.0	8.17	2.32	0.392
87009	09-May	2.0	5.40	5	13.0	8.40	2.53	0.468
87009	09-May	5.0	1.78	6	14.3	8.37	2.56	0.470
87009	09-May	10.0	0.16	20	45.2	8.14	2.43	0.344
87009	09-May	16.5	0.13	21	46.1	8.17	2.39	0.470
87010	12-May	2.0	7.00	4	4.7	8.47	2.33	0.429
87010	12-May	5.0	6.50	3	5.1	8.46	2.38	0.432
87010	12-May	10.0	0.22	20	44.2	8.19	2.42	0.330
87011	13-May	2.0	0.52	3	0.4	8.52	2.03	0.382
87011	13-May	4.5	0.52	2	0.4	8.52	2.04	0.378
87012	17-May	2.0	0.65	3	5.6	8.47	2.35	0.380
87012	17-May	5.0	0.36	4	0.7	8.47	2.31	0.374
87012	17-May	6.2	0.15	16	35.2	8.24	2.48	0.282
87013	19-May	2.0	0.21	6	4.7	8.52	2.30	0.413
87013	19-May	4.5	0.17	6	5.8	8.50	2.70	0.407
87015	19-Jul	1.0	10.10	39	**	**	2.26	0.369
87015	19-Jul	5.0	30.20	61	**	**	2.33	0.382
87016	19-Jul	1.0	0.78	20	**	**	2.14	0.316
87016	19-Jul	5.0	3.60	25	**	**	2.28	0.382
87016	19-Jul	10.0	11.30	30	**	**	2.32	0.369
87016	19-Jul	15.0	30.20	30	**	**	2.33	0.370
87017	20-Jul	1.0	2.30	20	**	**	2.22	0.350
87017	20-Jul	5.0	0.24	21	**	**	2.28	0.386

* ; ** ; *** see footnotes on page 32.

Table 4b. Cont'd.

Station	Date	Depth m	CHL $mg \cdot m^{-3}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
87017	20-Jul	10.0	0.30	21	**	**	2.31	0.384
87017	20-Jul	20.0	0.05	25	**	**	2.22	0.347
87017	20-Jul	30.0	0.06	21	**	**	2.33	0.340
87017	20-Jul	40.0	0.28	24	**	**	2.26	0.307
87018	20-Jul	1.0	0.27	19	**	**	2.12	0.321
87018	20-Jul	5.0	0.32	21	**	**	2.25	0.351
87018	20-Jul	10.0	0.28	22	**	**	2.33	0.382
87018	20-Jul	20.0	0.03	22	**	**	2.31	0.387
87018	20-Jul	30.0	0.04	26	**	**	2.28	0.382
87018	20-Jul	50.0	0.33	28	**	**	2.26	0.304
87018	20-Jul	100.0	0.05	26	**	**	2.33	0.272
87018	20-Jul	135.0	0.15	23	**	**	2.30	0.271
87020	22-Jul	1.0	6.40	29	**	**	2.26	0.350
87020	22-Jul	5.5	49.00	57	**	**	2.33	0.326
87021	22-Jul	1.0	7.00	30	**	**	2.32	0.377
87021	22-Jul	5.0	8.80	28	**	**	2.35	0.352
87021	22-Jul	10.0	11.10	29	**	**	2.32	0.325
87021	22-Jul	15.0	9.80	29	**	**	2.31	0.320
87022	22-Jul	1.0	1.93	18	**	**	2.07	0.296
87022	22-Jul	5.0	1.40	23	**	**	2.24	0.366
87022	22-Jul	10.0	3.40	24	**	**	2.34	0.374
87022	22-Jul	20.0	5.40	23	**	**	2.31	0.335
87022	22-Jul	29.0	1.45	25	**	**	2.26	0.311
87023	23-Jul	1.0	0.41	11	**	**	1.99	0.308
87023	23-Jul	5.0	1.45	13	**	**	2.28	0.379
87023	23-Jul	10.0	1.79	14	**	**	2.36	0.356
87023	23-Jul	20.0	1.60	16	**	**	2.29	0.327
87023	23-Jul	30.0	0.28	18	**	**	2.31	0.310
87023	23-Jul	46.0	0.19	19	**	**	2.30	0.286
87024	23-Jul	1.0	2.10	9	**	**	1.94	0.300
86024	23-Jul	5.0	1.40	12	**	**	2.15	0.379
87024	23-Jul	10.0	3.60	16	**	**	2.33	0.348
87024	23-Jul	20.0	0.41	16	**	**	2.30	0.306
87024	23-Jul	30.0	0.47	17	**	**	2.31	0.304
87025	23-Jul	1.0	3.00	10	**	**	1.87	0.304
87025	23-Jul	5.0	1.49	12	**	**	2.13	0.384
87025	23-Jul	10.0	1.74	12	**	**	2.32	0.346
87025	23-Jul	13.5	5.20	19	**	**	2.35	0.308
87026	24-Jul	1.0	2.50	20	**	**	1.92	0.294
87026	24-Jul	5.0	5.80	27	**	**	2.27	0.343
87014	26-Jul	0.0	2.70	25	**	**	1.77	0.305
87014	26-Jul	1.0	2.60	23	**	**	1.76	0.337
87014	26-Jul	4.0	1.02	23	**	**	2.26	0.312

* ; ** ; *** see footnotes on page 32.

Table 4b. Cont'd.

Station	Date	Depth m	CHL $mg \cdot m^{-3}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
87027	26-Jul	0.0	3.90	53	**	**	1.72	0.304
87027	26-Jul	1.0	4.30	76	**	**	1.72	0.285
87028	28-Jul	0.0	1.59	25	**	**	1.87	0.304
87028	28-Jul	1.0	1.59	23	**	**	1.89	0.300
87028	28-Jul	4.0	1.62	82	**	**	2.25	0.307
87029	28-Jul	0.0	1.16	44	**	**	2.22	0.310
87029	28-Jul	1.0	1.06	41	**	**	2.23	0.317
87029	28-Jul	5.0	1.16	65	**	**	2.24	0.310
87030	29-Jul	0.0	2.30	31	**	**	2.15	0.297
87030	29-Jul	1.0	2.30	26	**	**	2.10	0.298
87030	29-Jul	4.0	2.70	56	**	**	2.23	0.295
87031	29-Jul	0.0	3.00	35	**	**	1.98	0.297
87031	29-Jul	1.0	3.00	37	**	**	1.98	0.294
87031	29-Jul	2.5	2.20	37	**	**	2.06	0.295
87032	01-Aug	0.0	2.40	22	**	**	2.12	0.307
87032	01-Aug	1.0	1.40	18	**	**	2.14	*
87032	01-Aug	5.0	0.97	22	**	**	2.17	0.308
87032	01-Aug	8.5	0.92	37	**	**	2.22	0.308
87033	01-Aug	0.0	2.20	64	**	**	2.16	0.303
87033	01-Aug	1.0	2.20	65	**	**	2.15	*
87033	01-Aug	5.0	3.00	113	**	**	2.14	*
87034	02-Aug	0.5	0.64	19	**	**	2.16	0.311
87034	02-Aug	1.0	0.33	17	**	**	2.17	*
87034	02-Aug	5.0	0.57	24	**	**	2.19	0.312
87034	02-Aug	10.0	0.33	27	**	**	2.30	0.377
87034	02-Aug	14.0	0.43	31	**	**	2.31	0.372
87035	03-Aug	0.0	0.13	20	**	**	2.23	0.309
87035	03-Aug	1.0	0.14	18	**	**	2.19	*
87035	03-Aug	5.0	0.13	20	**	**	2.22	0.312
87035	03-Aug	10.0	0.19	21	**	**	2.27	0.331
87035	03-Aug	20.0	0.27	26	**	**	2.29	*
87035	03-Aug	25.0	2.80	26	**	**	2.26	0.342
87036	04-Aug	0.0	0.15	17	**	**	2.18	*
87036	04-Aug	1.0	0.13	21	**	**	2.19	0.303
87036	04-Aug	4.0	0.13	20	**	**	2.18	0.306
87036	04-Aug	10.0	0.22	21	**	**	2.14	0.369
87036	04-Aug	20.0	0.18	22	**	**	2.22	0.408
87036	04-Aug	30.0	0.25	22	**	**	2.26	*
87036	04-Aug	50.0	0.15	22	**	**	2.27	0.399
87036	04-Aug	100.0	0.15	22	**	**	2.26	0.313
87036	04-Aug	125.0	0.17	22	**	**	2.27	0.293
87036	04-Aug	150.0	0.08	22	**	**	2.28	0.264
87036	04-Aug	210.0	0.05	26	**	**	2.31	0.262

* ; ** ; *** see footnotes on page 32.

Table 4b. Cont'd.

Station	Date	Depth m	CHL $mg \cdot m^{-3}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
87037	05-Aug	0.0	0.12	18	**	**	2.21	*
87038	05-Aug	0.0	0.17	20	**	**	2.19	*
87050	05-Aug	1.0	0.16	18	**	**	2.21	0.302
87039	06-Aug	0.0	0.17	19	**	**	2.19	0.304
87039	06-Aug	1.0	0.12	20	**	**	2.19	*
87039	06-Aug	5.0	0.12	19	**	**	2.19	0.305
87039	06-Aug	10.0	0.14	20	**	**	2.19	0.305
87039	06-Aug	20.0	0.25	23	**	**	2.23	0.410
87039	06-Aug	30.0	1.30	22	**	**	2.28	0.366
87039	06-Aug	47.0	1.98	22	**	**	2.26	0.302
87051	10-Aug	1.0	0.30	23	**	**	2.21	0.291
87052	12-Aug	1.0	0.35	21	**	**	2.23	**
87053	13-Aug	1.0	0.23	19	**	**	2.20	**
87054	17-Aug	1.0	0.30	18	**	**	2.12	0.313
87055	17-Aug	1.0	0.73	17	**	**	2.11	0.313
87056	17-Aug	1.0	2.50	14	**	**	2.01	0.322
87059	18-Aug	1.0	0.97	15	**	**	2.08	0.294
87060	21-Aug	0.0	1.74	36	**	**	2.25	0.335
87060	21-Aug	1.0	1.64	38	**	**	2.24	0.335
87060	21-Aug	5.0	1.93	44	**	**	2.24	0.347
87061	22-Aug	0.0	2.20	29	**	**	2.16	0.338
87061	22-Aug	1.0	2.40	30	**	**	2.17	0.341
87061	22-Aug	5.0	3.80	34	**	**	2.21	0.344
87062	22-Aug	0.0	0.21	21	**	**	2.12	0.326
87062	22-Aug	1.0	0.21	20	**	**	2.10	0.322
87062	22-Aug	5.0	0.18	*	**	**	2.10	0.321
87062	22-Aug	10.0	0.26	19	**	**	2.10	0.329
87062	22-Aug	20.0	11.40	26	**	**	2.23	0.382
87062	22-Aug	28.0	13.40	*	**	**	2.25	0.371
87063	23-Aug	0.0	0.17	18	**	**	2.03	0.310
87063	23-Aug	1.0	0.14	20	**	**	2.04	0.300
87063	23-Aug	5.0	0.15	19	**	**	2.02	0.310
87063	23-Aug	10.0	0.15	20	**	**	2.03	0.313
87063	23-Aug	20.0	0.18	22	**	**	2.20	0.383
87063	23-Aug	30.0	0.43	19	**	**	2.19	0.368
87063	23-Aug	100.0	1.98	20	**	**	2.29	0.336
87063	23-Aug	190.0	0.59	24	**	**	2.31	0.263
87064	24-Aug	0.0	1.09	21	**	**	2.17	0.311
87064	24-Aug	5.0	1.09	24	**	**	2.17	0.304
87064	24-Aug	15.0	1.06	35	**	**	2.30	0.299
87066	25-Aug	0.0	6.90	26	**	**	2.00	0.308
87066	25-Aug	1.0	6.30	29	**	**	2.09	0.308
87066	25-Aug	5.0	5.10	49	**	**	2.13	0.293

* ; ** ; *** see footnotes on page 32.

Table 4b. Cont'd.

Station	Date	Depth m	CHL $mg \cdot m^{-3}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
87067	25-Aug	0.0	2.70	28	**	**	2.06	0.299
87067	25-Aug	1.0	3.40	29	**	**	2.25	0.299
87067	25-Aug	5.0	2.60	36	**	**	2.07	0.293
87067	25-Aug	15.0	2.40	136	**	**	2.17	0.299
87065	26-Aug	1.0	0.16	22	**	**	*	0.313
87065	26-Aug	5.0	0.20	19	**	**	2.11	0.310
87065	26-Aug	10.0	0.30	20	**	**	2.19	0.315
87065	26-Aug	20.0	1.25	29	**	**	2.25	0.313
87065	26-Aug	25.0	1.54	29	**	**	2.24	0.357
87068	27-Aug	1.0	1.85	61	**	**	1.83	0.316
87068	27-Aug	5.0	2.10	60	**	**	1.80	0.319
87069	27-Aug	1.0	1.06	19	**	**	2.09	0.301
87069	27-Aug	5.0	0.73	19	**	**	2.25	0.295
87069	27-Aug	10.0	0.24	19	**	**	2.22	0.301

* ; ** ; *** see footnotes on page 32.

Table 5a. Chemistry analysis results for the Beaufort Sea Shelf area - 1988

Station	Date	Depth m	NO3-N$_3$ mmol·m^{-3}	NO2-N$_3$ mmol·m^{-3}	TDN mmol·m^{-3}	PN mmol·m^{-3}	PO4 mmol·m^{-3}	TDP mmol·m^{-3}	PP mmol·m^{-3}	DIC mol·m^{-3}	DOC mol·m^{-3}	PC mmol·m^{-3}	SI mmol·m^{-3}
88002	20-Mar	0.0	1.86	***	*	2.14	***	0.39	0.16	2.25	0.51	29.97	64.9
88002	20-Mar	2.0	2.57	***	31.43	1.07	***	0.61	0.16	2.50	0.47	16.65	64.9
88002	20-Mar	3.0	2.86	***	34.29	1.21	***	0.36	0.23	2.23	0.37	24.15	64.9
88003	21-Mar	0.0	2.14	***	55.72	1.36	0.29	1.07	0.16	2.91	0.21	19.15	56.6
88003	21-Mar	2.0	3.93	0.07	61.43	1.00	0.32	1.10	0.13	2.93	0.15	19.15	55.2
88003	21-Mar	5.0	5.86	0.07	39.29	0.64	0.90	1.58	0.13	2.73	0.09	9.16	31.7
88003	21-Mar	10.0	4.50	0.07	66.43	0.57	0.97	2.23	0.23	2.66	0.14	8.33	26.8
88003	21-Mar	12.5	5.50	0.07	45.72	3.36	1.07	1.97	0.77	2.53	0.07	57.45	27.6
88004	22-Mar	0.0	9.14	0.29	65.72	6.36	1.61	1.94	0.61	2.63	0.24	46.63	30.0
88004	22-Mar	1.5	7.21	0.21	68.57	*	1.23	2.03	0.26	2.62	0.34	14.99	29.4
88004	22-Mar	5.0	9.50	0.21	77.14	*	1.45	2.10	0.19	2.58	0.07	10.82	30.3
88004	22-Mar	10.0	6.14	0.21	35.72	*	1.58	2.07	0.19	3.20	0.06	7.49	20.0
88004	22-Mar	15.0	9.50	0.21	38.57	*	1.71	2.13	0.19	2.72	0.10	7.49	28.3
88004	22-Mar	17.3	10.07	0.21	40.00	*	1.68	2.07	0.29	2.60	0.06	9.99	28.9
88005	23-Mar	0.0	1.29	0.36	35.00	*	1.23	1.74	0.65	2.37	0.10	81.59	13.8
88005	23-Mar	1.5	1.71	0.21	28.57	*	1.16	1.74	0.16	2.44	0.08	10.82	10.0
88005	23-Mar	5.0	2.36	0.21	35.72	*	1.39	1.78	0.16	2.46	0.07	7.49	10.1
88005	23-Mar	10.0	1.36	0.14	35.72	*	1.13	1.78	0.16	2.39	0.08	17.48	10.1
88005	23-Mar	15.0	1.50	0.14	37.14	*	1.00	1.74	0.16	2.34	0.05	7.49	10.3
88005	23-Mar	16.5	2.14	0.14	32.86	*	1.23	1.91	0.16	2.30	0.06	8.33	11.1

* ; ** ; *** see footnotes on page 32.

Table 5b. Chemistry analysis results for the Beaufort Sea Shelf area - 1988.

Station	Date	Depth m	CHL $mg \cdot m^{-3}$	TSS $mg \cdot L^{-1}$	COND $mS \cdot cm^{-1}$	pH	ALK $meq \cdot kg^{-1}$	DO $mmol \cdot m^{-3}$
88002	20-Mar	0.0	0.18	5	0.5	8.52	2.17	0.394
88002	20-Mar	2.0	0.19	4	0.4	8.52	2.08	0.382
88002	20-Mar	3.0	0.20	6	0.3	8.52	2.08	0.379
88003	21-Mar	0.0	0.57	11	24.7	8.35	2.82	0.423
88003	21-Mar	2.0	0.27	9	24.6	8.31	2.78	0.429
88003	21-Mar	5.0	0.06	20	41.6	8.20	2.58	0.344
88003	21-Mar	10.0	0.05	20	47.0	8.16	2.50	0.329
88003	21-Mar	12.5	0.11	38	47.6	8.16	2.47	0.322
88004	22-Mar	0.0	4.20	29	46.5	8.16	2.53	0.326
88004	22-Mar	1.5	0.32	28	46.4	8.20	2.53	0.322
88004	22-Mar	5.0	0.14	21	46.3	8.20	2.53	0.322
88004	22-Mar	10.0	0.20	26	48.6	8.22	2.40	0.347
88004	22-Mar	15.0	0.09	23	49.1	8.15	2.42	0.329
88004	22-Mar	17.3	0.07	24	49.8	8.17	2.45	0.322
88005	23-Mar	0.0	11.70	22	47.3	8.17	2.30	0.357
88005	23-Mar	1.5	0.61	21	47.5	8.19	2.30	0.351
88005	23-Mar	5.0	0.34	20	47.4	8.09	2.28	0.310
88005	23-Mar	10.0	0.42	22	47.5	8.13	2.28	0.322
88005	23-Mar	15.0	0.32	21	47.4	8.17	2.28	0.304
88005	23-Mar	16.5	0.32	21	47.5	8.17	2.26	0.313

* ; ** ; *** see footnotes on page 32.